RS-19-093 Enclosure B

DRE05-0048, Revision 5

Dresden Units 2 & 3 Post-LOCA EAB, LPZ, and CR Dose – AST Analysis

Design Analysis Cover Sheet
Page 1

Design Analysis		Last Page No. [6] **A-5**	
Analysis No.: [1]	**DRE05-0048**	Revision: [2] **5 Major ☒**	**Minor ☐**
Title: [3]	**Dresden Units 2 & 3 Post-LOCA EAB, LPZ, and CR Dose – AST Analysis**		
EC/ECR No.: [4]	**628318**	Revision: [5] **0**	

Station(s): [7]	**Dresden**	Component(s): [14]	
Unit No.: [8]	**02 and 03**	**N/A**	
Discipline: [9]	**NUCD**		
Descrip. Code/Keyword: [10]	**AST, R01, R02**		
Safety/QA Class: [11]	**SR**		
System Code: [12]	**XX**		
Structure: [13]	**N/A**		

CONTROLLED DOCUMENT REFERENCES [15]

Document No.:	From/To	Document No.:	From/To
See Section 9.0			

Is this Design Analysis Safeguards Information? [16] Yes ☐ No ☒ **If yes, see SY-AA-101-106**

Does this Design Analysis contain Unverified Assumptions? [17] Yes ☒ No ☐ **If yes, ATI/AR#: 4254154-16**

This Design Analysis SUPERCEDES: [18] **All prior revisions** in its entirety.

Description of Revision (list changed pages when all pages of original analysis were not changed): [19] This revision evaluates increasing the combined MSIV leakage from 150 scfh to 250 scfh for Unit 2 and 350 scfh for Unit 3. Evaluation of the GNF3 fuel type is added. Additional changes are listed in the record of revision. All pages are changed.

Preparer: [20]	**Jeffrey Head (ENERCON)**	Jeffrey Head	10/7/19
	Print Name	**Sign Name**	**Date**

Method of Review: [21] Detailed Review ☒ Alternate Calculations (attached) ☐ Testing ☐

Reviewer: [22]	**Sam Lafountain (ENERCON)**	Sam Lafountain	10/7/19
	Print Name	**Sign Name**	**Date**

Review Notes: [23] **Independent review ☒** **Peer review ☐**

The document has been reviewed in its entirety and found to be acceptable. All recommended changes were minor in nature, having been discussed, accepted, and incorporated into the final document.

(For External Analyses Only) External Approver: [24]	**Jared Monroe (ENERCON)**		10/7/19
	Print Name	**Sign Name**	**Date**
Exelon Reviewer: [25]	**Greg Heasley**		10/7/19
	Print Name	**Sign Name**	**Date**

Independent 3rd Party Review Reqd? [26] Yes ☐ No ☒

Exelon Approver: [27]	**John Massari**		10/7/2019
	Print Name	**Sign Name**	**Date**

Attachment 2
Owner's Acceptance Review Checklist for External Design Analysis
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Contract #: 597114 **Release #:** 151

No	Question	Instructions and Guidance	Yes / No / N/A
1	Do assumptions have sufficient documented rationale?	All Assumptions should be stated in clear terms with enough justification to confirm that the assumption is conservative. For example, 1) the exact value of a particular parameter may not be known or that parameter may be known to vary over the range of conditions covered by the Calculation. It is appropriate to represent or bound the parameter with an assumed value. 2) The predicted performance of a specific piece of equipment in lieu of actual test data. It is appropriate to use the documented opinion/position of a recognized expert on that equipment to represent predicted equipment performance. Consideration should also be given as to any qualification testing that may be needed to validate the Assumptions. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.	☒ ☐ ☐
2	Are assumptions compatible with the way the plant is operated and with the licensing basis?	Ensure the documentation for source and rationale for the assumption supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters. If the Analysis purpose is to establish a new licensing basis, this question can be answered yes, if the assumption supports that new basis.	☒ ☐ ☐
3	Do all unverified assumptions have a tracking and closure mechanism in place?	If there are unverified assumptions without a tracking mechanism indicated, then create the tracking item either through an ATI or a work order attached to the implementing WO. Due dates for these actions need to support verification prior to the analysis becoming operational or the resultant plant change being op authorized.	☒ ☐ ☐
4	Do the design inputs have sufficient rationale?	The origin of the input, or the source should be identified and be readily retrievable within Exelon's documentation system. If not, then the source should be attached to the analysis. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.	☒ ☐ ☐
5	Are design inputs correct and reasonable with critical parameters identified, if appropriate?	The expectation is that an Exelon Engineer should be able to clearly understand which input parameters are critical to the outcome of the analysis. That is, what is the impact of a change in the parameter to the results of the analysis? If the impact is large, then that parameter is critical.	☒ ☐ ☐
6	Are design inputs compatible with the way the plant is operated and with the licensing basis?	Ensure the documentation for source and rationale for the inputs supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters.	☒ ☐ ☐

Attachment 2
Owner's Acceptance Review Checklist for External Design Analysis
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Design Analysis No.: DRE05-0048 Rev: 5 Page 3

No	Question	Instructions and Guidance	Yes / No / N/A
7	Are Engineering Judgments clearly documented and justified?	See Section 2.13 in CC-AA-309 for the attributes that are sufficient to justify Engineering Judgment. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.	☒ ☐ ☐
8	Are Engineering Judgments compatible with the way the plant is operated and with the licensing basis?	Ensure the justification for the engineering judgment supports the way the plant is currently or will be operated post change and is not in conflict with any design parameters. If the Analysis purpose is to establish a new licensing basis, then this question can be answered yes, if the judgment supports that new basis.	☒ ☐ ☐
9	Do the results and conclusions satisfy the purpose and objective of the Design Analysis?	Why was the analysis being performed? Does the stated purpose match the expectation from Exelon on the proposed application of the results? If yes, then the analysis meets the needs of the contract.	☒ ☐ ☐
10	Are the results and conclusions compatible with the way the plant is operated and with the licensing basis?	Make sure that the results support the UFSAR defined system design and operating conditions, or they support a proposed change to those conditions. If the analysis supports a change, are all of the other changing documents included on the cover sheet as impacted documents?	☒ ☐ ☐
11	Have any limitations on the use of the results been identified and transmitted to the appropriate organizations?	Does the analysis support a temporary condition or procedure change? Make sure that any other documents needing to be updated are included and clearly delineated in the design analysis. Make sure that the cover sheet includes the other documents where the results of this analysis provide the input.	☐ ☐ ☒
12	Have margin impacts been identified and documented appropriately for any negative impacts (Reference ER-AA-2007)?	Make sure that the impacts to margin are clearly shown within the body of the analysis. If the analysis results in reduced margins ensure that this has been appropriately dispositioned in the EC being used to issue the analysis.	☐ ☐ ☒
13	Does the Design Analysis include the applicable design basis documentation?	Are there sufficient documents included to support the sources of input, and other reference material that is not readily retrievable in Exelon controlled Documents?	☒ ☐ ☐
14	Have all affected design analyses been documented on the Affected Documents List (ADL) for the associated Configuration Change?	Determine if sufficient searches have been performed to identify any related analyses that need to be revised along with the base analysis. It may be necessary to perform some basic searches to validate this.	☒ ☐ ☐
15	Do the sources of inputs and analysis methodology used meet committed technical and regulatory requirements?	Compare any referenced codes and standards to the current design basis and ensure that any differences are reconciled. If the input sources or analysis methodology are based on an out-of-date methodology or code, additional reconciliation may be required if the site has since committed to a more recent code	☒ ☐ ☐

Attachment 2
Owner's Acceptance Review Checklist for External Design Analysis
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Design Analysis No.: DRE05-0048 **Rev:** 5 **Page** 4

No	Question	Instructions and Guidance	Yes / No / N/A
16	Have vendor supporting technical documents and references (including GE DRFs) been reviewed when necessary?	Based on the risk assessment performed during the pre-job brief for the analysis (per HU-AA-1212), ensure that sufficient reviews of any supporting documents not provided with the final analysis are performed.	☒ ☐ ☐
17	Do operational limits support assumptions and inputs?	Ensure the Tech Specs, Operating Procedures, etc. contain operational limits that support the analysis assumptions and inputs.	☒ ☐ ☐
18.	List the critical characteristics of the product, and validate those critical characteristics.		

Create an SFMS entry as required by CC-AA-4008. SFMS Number: 66352

This full revision is for a license amendment to change MSIV leakage rate Technical Specifications and associated changes in the dose analysis methodology. The key parameters and changes are identified in Section 5.8. The critical characteristics are MSIV leak rates, fission product removal mechanisms, reactor building draw down time, and control room ventilation flow. The changes in the related inputs? assumptions were reviewed for proper design references? justifications and are acceptable pending NRC review.

REVISION HISTORY

Revision	Revision Description
0	Original Issue
1	1) Increased control room unfiltered inleakage during normal CR HVAC operation from 2,000 to 60,000 cfm. 2) Revised EAB and LPZ chimney release atmospheric dispersion X/Q values to those calculated in DRE04-0030, Revision 2 3) Revised the elemental iodine natural deposition cutoff time from 3.615 hrs to 3.05 hrs.
1A	Evaluated acceptability of Revision 1 results for utilization of the Westinghouse Optima2 fuel source terms.
2	1) Corrected typographic errors in Revision 1A 2) Used Westinghouse SVEA-96 Optima2 fuel having a core average exposure of 39 GWD/MTU 3) Revised SBGTS HEPA efficiency from 99% to 98% and SBGTS charcoal filter efficiency from 50% to 80% 4) Reduced CR unfiltered inleakage from 400 cfm to 395 cfm
3	Used the AREVA core reload design having core exposure of 39 GWD/MTU and the maximum discharge isotopic inventory between the 3.9% and 4.5% enrichment for the AREVA ATRIUM 10XM fuel assembly.
4	Combines the results from Revisions 2 and 3 into one document and corrects the issues identified in IR#4219484. Incorporates fixes related to RADTRAD Error 17
5	1) Increased the combined MSIV leakage from 150 scfh to 250 scfh for Unit 2 and 350 scfh for Unit 3 2) Credited reduced containment and MSIV leakage after 24 hours with respect to RADTRAD flow rates 3) Drywell spray added to the model 4) Credited aerosol deposition in horizontal main steam line upstream of the MSIV that is assumed to fail to close 5) Time-dependent elemental iodine removal coefficients for the main steam lines are used 6) Reduced control room normal intake from 60,000 cfm to 4,000 cfm 7) A secondary containment drawdown time of 25 minutes is used 8) Removed credit for Powers' aerosol deposition model and natural iodine plateout in containment 9) SGT System Exhaust Charcoal Filter Efficiencies changed from 80% to 90% 10) Added evaluation of GNF3 fuel. Due to the large numbers of changes associated with this revision, the entire document is revised and revision bars are not used.

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1.0 PURPOSE

The purpose of this calculation is to evaluate the post-loss of coolant accident (LOCA) Exclusion Area Boundary (EAB), Low Population Zone (LPZ), and Control Room (CR) doses for the Dresden Nuclear Power Station (DNPS) for the Framatome ATRIUM 10XM, Westinghouse SVEA-96 Optima2, and Global Nuclear Fuel (GNF) GNF3 fuel types that may reside in the Dresden reactor cores, as-built design inputs and assumptions, the Alternative Source Term (AST), the guidance in Regulatory Guide (RG) 1.183, and Total Effective Dose Equivalent (TEDE) dose criteria. The main body of this calculation evaluates an MSIV leakage rate of 250 scfh. Appendix A evaluates an MSIV leakage rate of 350 scfh that is only applicable to Unit 3. The methodology for the Unit 2 and Unit 3 evaluation is identical. The differences between the Unit 2 and 3 analyses are the MSIV leakage limit assumptions and the control room χ/Qs used.

This calculation is performed in a reasonably conservative manner in which the following design basis post-LOCA release paths are analyzed:

1. Containment Leakage.
2. Engineered Safety Feature (ESF) Leakage.
3. Main Steam Isolation Valve (MSIV) Bypass Leakage.

2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

The design basis loss of coolant accident is analyzed using a conservative set of assumptions and as-built design input parameters compatible for the AST and TEDE dose criteria. The numeric values of the critical design inputs are conservatively selected to assure an appropriate prudent safety margin against unpredicted events in the course of an accident and compensate for large uncertainties in facility parameters, accident progression, radioactive material transport, and atmospheric dispersion.

2.1 Post-LOCA Containment Leakage

2.1.1 Source Term

The post-LOCA containment leakage model is shown in Figure 1. The BWR core inventory fractions listed in Regulatory Guide 1.183 Table 1 are released into the containment at the release timing shown in RG 1.183 Table 4 (Reference 9.1, Sections 3.2 & 3.3). Since the post-LOCA minimum suppression chamber water pH is greater than 7.0 (Reference 9.12), the chemical form of radioiodine released into the containment is assumed to be 95% cesium iodide (CsI), 4.85% elemental iodine, and 0.15% organic iodide (Reference 9.1, Section A.2). With the exception of elemental and organic iodine and noble gases, the remaining fission products are assumed to be in particulate form (Reference 9.1, Section 3.5). The isotopic core inventory (Ci) of fission products in the reactor core for the Framatome fuel design obtained from Reference 9.6 is listed in Table 1. The isotopic core inventory (Ci) of fission products in the reactor core for the Westinghouse fuel design obtained from Reference 9.18 is listed in Table 20. The isotopic inventory (Ci/MWt) of fission products in the reactor core for the GNF3 fuel design obtained from Reference 9.33 is listed in Table 1B.

It should be noted that the GNF3 fuel source term provided in Reference 9.33 is based on an increased core average exposure of 43 GWd/MTU and an enrichment range between 3.7 wt% U-235 and 4.5 wt% U-235. This source term is analyzed in this calculation to support license amendment RS-19-093 and provide future flexibility in core design. Full implementation of GNF3 fuel is not provided in the engineering change associated with Revision 5 of this calculation (EC628318).

The RADTRAD Nuclide Inventory Files (NIF) are developed in Tables 1A and 20A using the core isotopic activities from Tables 1 and 20 and core thermal power level of 3,016.14 MWt (= 102% of 2,957 MWt Rated Thermal Power [RTP]). The NIF for the GNF3 fuel type is listed in Table 1B. The NIF is used as a source term input for the RADTRAD3.03 computer code (Reference 9.2). The end-of-cycle (EOC) core inventory provided in References 9.6 and 9.18 are used in this analysis because the resulting doses for the EOC core inventory are bounding for other shorter fuel cycles. The GNF3 fuel source term from Reference 9.33 conservatively uses the maximum activity for each isotope throughout the entire cycle. The RADTRAD3.03

computer code (Reference 9.2) is used to develop the post-LOCA radioactive release models. The validation & verification (V&V) of the RADTRAD3.03 code is documented in Reference 9.26 and 9.27. The RADTRAD NIF DQLOCA_ATRIUM_DEF.nif (Framatome fuel), DQ39GWD_DEF.nif (Westinghouse fuel), and DQLOCA_GNF3 (GNF3 fuel) (Attachments 12.6a, 12.6b, and 12.6c) are developed to be used in this analysis. The source term design inputs are shown in Sections 5.3.1.1 through 5.3.1.7. The Release Fraction and Timing (RFT) File (Attachment 12.7a) is used in the analysis.

2.1.2 Transport In Primary Containment

For compartment and pathway modeling purposes, the radioactivity released from the fuel is assumed to mix instantaneously and homogeneously throughout the free air volume of the portion of primary containment that is under the spray headers. Releasing the activity only into the sprayed volume and assuming the containment and MSIV leakage pathways exit containment through the sprayed volume leads to a higher concentration of radioactivity released to the environment. For the containment leakage case, the leakage is released to the environment from both the unsprayed and sprayed regions of containment. The radioactivity release into the containment is assumed to terminate at the end of the Early-In-Vessel phase, which occurs at the end of 2 hrs after the onset of a LOCA (Reference 9.1, Table 4). The design inputs for the transport in the primary containment are shown in Sections 5.3.2.1 through 5.3.2.12.

For calculating the MSIV leakage flow rates between the drywell and the environment, the flow rate analysis is based on the total drywell volume during the first 2 hours of the LOCA, and then the combined drywell plus suppression chamber air volume after 2 hours, at which time the containment volume is expected to become well mixed following the restoration of core cooling. The thermal-hydraulic conditions in the primary containment are expected to be quite active due to a very high flow established between drywell and wetwell as a result of the steaming and condensing phenomenon that occurs post-LOCA (Ref. 9.5, Table 2). However, the containment and drywell are separated into a sprayed and unsprayed region and a minimal flow rate of two (2) air changes per hour is modeled between these two regions in accordance with Reference 9.1.

2.1.3 Reduction In Airborne Activity Inside Containment

Iodine removal by suppression pool scrubbing is not credited because the bulk core activity is released to containment well after the initial mass and energy release (see RG 1.183, Assumption 3.5). Containment sprays are credited and the removal of the elemental iodine by natural or gravitational deposition on wetted surface areas inside containment due to the iodine adsorption is not credited. The benefit to crediting removal of elemental iodine via natural deposition would be minimal because the sprays are activated at 10 minutes after the accident. The Decontamination Factor (DF) of elemental iodine is based on the Standard Review Plan (SRP) 6.5.2 guidance and is limited to a DF of 200 (Ref. 9.9, page 6.5.2-10).

RG 1.183, Appendix A, Section 3.3, allows the licensees to take a reduction in airborne radioactivity in the containment by containment spray systems that have been designed and are maintained in accordance with Chapter 6.5.2 of the SRP (Ref. 9.9). The Technical Requirements Manual (TRM) indicates that the spray headers and nozzles are air tested in the drywell. This test verifies that a flow path exists through the spray header and nozzles and thereby verifies its operational status. Dresden TRM, 3.6.a requires (Ref. 9.48), “Two drywell spray subsystems shall be operable.” Operability of the drywell spray subsystem of the low pressure coolant injection/containment cooling system is required to condense steam in the containment atmosphere. The license amendment request to submit revision 5 of this calculation requires that the drywell spray system remains operable so it can be used post-LOCA to remove fission products in the drywell air. This license amendment request also moves the TRM requirements to the Technical Specifications and adjusts the surveillance frequencies for the air test based on operating experience.

Per Dresden UFSAR Section 6.2.2.2, the containment cooling mode of the Low Pressure Coolant Injection (LPCI) system is a safety function and consists of three cooling functions; drywell spray, suppression chamber spray, and suppression pool cooling. All containment cooling functions are manually initiated. Drawing M-29 (Ref. 9.42) indicates all equipment and piping in the LPCI system that feeds the drywell spray nozzles are safety related.

Per DEOP 0200-01 (Ref. 9.34) and DOP 1500-03 (Ref. 9.35), drywell spray is initiated once drywell pressure exceeds 9 psig. This happens early in the event per GE-NE-A22-00103-08-01 (Ref. 9.10). Sections 4.6.7 and 4.6.8 contain more discussion on drywell spray timing.

The first order removal coefficient for drywell spray for particulate aerosols can be determined by the following equation from SRP 6.5.2 (Reference 9.9, Section III.4.C.iv, page 6.5.2-11):

λ_S,Partic = particulate aerosol removal coefficient by spray wash-out
λ_S,Partic = (3 × h × F × E) / (2 × V × D)
λ_S,Partic = (3 × h × F) × (E/D) / (2 × V) where,
h = spray drop fall height
F = spray flow
E/D = ratio of a dimensionless collection efficiency (E) to the average spray drop diameter (D)
V = containment building net free volume

SRP 6.5.2 also states that the minimum particulate aerosol removal coefficient should be reduced by a factor of 10 when a DF of 50 is reached. Although the elemental iodine removal coefficient is considerably higher than the particulate aerosol removal coefficient based on a review of the equations in SRP 6.5.2, it is conservatively assumed to be the same as the particulate aerosol removal coefficient.

The iodine decontamination factor, DF, is defined as the maximum iodine concentration in the containment atmosphere divided by the concentration of iodine in the containment atmosphere at some time after decontamination (Ref. 9.9, Section III.4.D). The effectiveness of the spray in removing elemental iodine is presumed to end when the maximum elemental iodine DF is reached. This value cannot exceed 200. Because the removal mechanisms for organic iodides and particulate iodines are significantly different from, and slower than the removal mechanisms for elemental iodine, there is no need to limit the DF for particulate iodines (Ref. 9.9, Section III.4.D).

The MSIV leakage release models in RADTRAD are modified simply by adding only drywell spray elemental and particulate removal coefficients to determine the time-dependent reduction in the drywell airborne elemental iodine atoms and particulate mass, which are listed in Table 19. To ensure activity is not held up in the unsprayed volume, a minimal flow rate is established between the sprayed and unsprayed regions in the drywell.

The DW spray is assumed to start 10 minutes after onset of a LOCA (Ref. 9.34 and 9.35). In accordance with RG 1.183 Appendix A Section 3.3, the maximum DF for elemental iodine is based on the maximum iodine activity in the primary containment atmosphere when the sprays actuate divided by the activity of iodine remaining at some time after decontamination. Also, the particulate iodine removal rate should be reduced by a factor of 10 when a DF of 50 is reached. The review of Table 19 indicates the elemental iodine reaches a DF of less than 200 at 2.3 hrs and aerosol iodine mass reaches a DF of less than 50 at 2.2 hrs for all fuel types. After 2.3 hours the elemental iodine removal via spray is terminated and after 2.2 hours the aerosol removal coefficient is reduced by a factor of 10 until 4.0 hours post-accident when the DW spray is assumed to be terminated per Assumption 4.6.7 and 4.6.8.

Containment leakage of 0.03 volume fractions per day (i.e., 3 vol%/day) is based on the allowable Technical Specification leak rate (Reference 9.17.2) as indicated in Section 5.3.2.7. Reduction in the containment leakage after 24 hours to 50% of the maximum leakage is credited in the analysis based on a review of Table 3-6 of Reference 9.10. Table 3-6 corresponds to the case where drywell sprays are used to reduce drywell pressure. Drywell pressure is 21.8 psia (7.1 psig) at 40,000 seconds (~11 hours) following a LOCA which is well below the maximum drywell driving pressure of 43.9 psig. In accordance with a modified Darcy's equation for flow through orifices (Equation 2-24 of Ref. 9.32), the volumetric flow rate is proportional to the square root of the driving pressure, so a pressure reduction of 75% (i.e., $P=1/4*P_{max}$) leads to a flow rate reduction of 50%. Because the flow rates are based on a maximum drywell pressure of 43.9 psig, pressures less than approximately 11 psig will result in a reduction in flow of at least 50%.

Per Equation 2-24 of Ref. 9.32, the flow rate is inversely proportional to the square root of the density. The maximum drywell temperature occurs later on in the event per Figure 3-5 of Reference 9.10 but the calculated flow rates are already based on the highest temperature (lowest density) so no credit is taken for the effect of reduced volumetric flow due to increased density. Therefore, a leak rate reduction of 50% of the maximum at 24 hours following the event is justified.

A comparison between the NUREG-0800 Section 6.5.2 review items and the discussion of how this item is addressed by the containment sprays is provided in the following table.

NUREG-0800 Review Procedure Item	Discussion
1. Design Requirements for Fission Product Removal. The containment spray system should be designed in accordance with the requirements of ANSI/ANS 56.5, except that the requirements for any spray additive or other pH control system in this reference need not be followed.	The containment spray system meets the requirements of ANS/ANSI 56.5 as it relates to the calculation of fission product removal following a LOCA. This includes geometry, physical features, flow characteristics, and containment mixing. This is based on the functional criteria and design bases listed in Sections 3.1.1.7.22, 3.1.1.7.24, and 6.2.2 of the UFSAR (Ref. 9.47). The relevant requirements taken from Section 6.3, 6.3.1 and 6.3.2 of ANSI/ANSI 56.5 and an explanation on how these requirements are met are as follows: “The performance requirements for the fission product removal function of the containment spray system usually coincide with the requirements for the pressure suppression and heat removal functions. However, because of the greater sensitivity of the fission product removal function to such system parameters as drop size, solution chemistry, and the containment volume covered by the spray, the fission product removal function places additional restraints on the design.” Per UFSAR Section 6.2.2.2, “As shown in Drawings M-29, Sheet 1 and M-360, Sheet 1, two separate and independent containment cooling subsystems are provided to remove heat from the containment, reduce containment pressure and restore suppression pool temperature following a postulated LOCA.” The following specific requirements related to the fission product removal function are also met. “Drop Size. Since the drop size spectrum emitted by the spray nozzles is a key parameter in determining the fission product removal effectiveness, detailed drop size information shall be obtained for the nozzles selected for this function. This information, based upon tests, shall include: (1) A histogram or tabulated data of the spatial drop diameter spectrum obtained from a representative section of the spray cone produced by the nozzle. Each drop diameter increment shall contain a statistically meaningful number of observations. Drop diameter increments shall be 100 microns or less. (2) Information concerning the source of the data and their expected accuracy and repeatability.” Detailed drop size information for the spray nozzles could not be located. Therefore, the aerosol removal efficiency is calculated using the conservative method in NUREG-0800 as discussed in Section 7.11. “(1) The spray nozzles shall be located as high in the containment as practicable, to maximize the spray drop fall distance.” The two levels of spray nozzles are located as high in the containment building as practical (Ref. 9.44). The lower spray nozzle header is conservatively used to

NUREG-0800 Review Procedure Item	Discussion
	calculate fall height. “(2) The spray nozzles and distribution headers shall be arranged such that the volume of the containment covered by the spray is maximized. If containment structures (e.g., a concrete operating floor) obstruct containment coverage by the spray headers in the containment dome, an evaluation shall be made to determine the need for additional spray headers to reach the regions below these obstructions.” There is not a concrete operating floor between the spray headers and the drywell floor. The containment structure allows the spray to reach the drywell floor (Ref. 9.44). “(3) Nozzle and header arrangement shall maximize the uniformity of the spray solution mass flux in the sprayed region. In the region above the operating deck, an unsprayed annulus adjacent to the containment wall shall be avoided.” Each spray nozzle is equally spaced around the radius of the drywell such that the spray uniformity is maximized and an unsprayed annulus adjacent to the containment wall is avoided. This is based on the functional criteria listed in Sections 3.1.1.7.22, 3.1.1.7.24, and 6.2.2 of the UFSAR (Ref. 9.47) along with M-29, Sheet 1 (Ref. 9.42). Section 6.2.2.2 of the UFSAR states “Separate containment cooling spray lines terminate at two ring headers in the drywell and two separate cooling spray lines terminate at a common ring header in the suppression chamber. These ring headers are provided with spray nozzles which will assure the proper distribution of water spray. The nozzles produce a controlled spray pattern and are designed to provide the desired water particle size while preventing plugging.” “(4) Coverage analysis shall include the effect of the post-accident atmosphere on the spray drop trajectories, including the postaccident containment conditions resulting in the highest calculated atmospheric density.” The spray nozzles are designed to function in the post-accident containment atmosphere (Ref. 9.35). A conservatively low overall sprayed volume is used (9.50E+04 ft^3 rather than the calculated value of 1.07E+05 ft^3 per section 7.11) as a conservatism and the removal efficiencies taken from NUREG-0800 Section 6.5.2 are used which are conservative to use in the post accident environment per Assumption 4.6.10. “(5) Overlapping nozzle patterns are usually necessary to distribute the required spray flow rate; however, overlapping patterns for different types of nozzles producing widely different drop sizes shall be minimized. This is due to the fact that sprays with widely different drop sizes tend to coalesce and this is not desirable.”

NUREG-0800 Review Procedure Item	Discussion
	The same nozzles are used throughout the drywell such that coalescence is minimized (Ref. 9.37). "(6) Complete spray coverage of a region shall be assumed if 90 percent of the volume or 90 percent of the cross-sectional area with the fully developed spray pattern is directly sprayed. Spray coverage data shall be corrected for postaccident conditions to account for the reduced spray coverage in higher density atmospheres. These criteria shall apply when full credit for fission product removal is desired without additional analysis." Due to the uniformity of the spray nozzles (Ref. 9.37), it is expected that at least 90% of the cross sectional area of the drwell air space is sprayed. "(7) Spray nozzles shall be arranged and mounted on the piping so as to minimize the potential for nozzle blockage." The spray nozzles are mounted on the piping so as to mimize the potential for nozzle blockage (Ref. 9.42 and 9.43). Nozzle blockage is also managed by periodically flow testing through the nozzles with air (per the Technical Specification changes associated with the license amendment request submitted with Revision 5 of this calculation).
A. System Operation. The containment spray system should be designed to be initiated automatically by an appropriate accident signal and transferred automatically from the injection mode to the recirculation mode to ensure continuous operation until the design objectives of the system have been achieved. In all cases, the operating period should not be less than 2 hours. Additives to the spray solution may be initiated manually or automatically or stored in the containment sump to be dissolved during the spray injection period.	The containment spray system is not operated automatically to prevent flow diversion from the LPCI system in injection mode. At 10 minutes after the LOCA (Ref. 9.34 and 9.35), flow is diverted to containment sprays to reduce containment pressure and scrub airborne activity. The manual actions required to initiate sprays at 10 minutes following a LOCA meet the requirements of Information Notice 97-78.
B. Coverage of Containment Building Volume. To ensure full spray coverage of the containment building volume, the following should be observed: i. The spray nozzles should be located as high in the containment building as practicable to maximize the spray drop fall distance.	The two levels of spray nozzles are located as high in the containment building as practical (Ref. 9.44). The lower spray nozzle header is used to calculate fall height.
ii. The layout of the spray nozzles and distribution headers should be such that the cross-sectional area of the containment building covered by the spray is as large as practicable and the spray produced is a nearly homogeneous distribution in the containment building space. Unsprayed regions in the upper containment building and, in particular, an unsprayed annulus adjacent to the containment building liner should be avoided wherever possible.	The nozzles produce a spray that is nearly homogeneously distributed in the containment building space and an unsprayed annulus adjacent to the containment wall is not produced. This is based on the functional criteria and design bases listed in Sections 3.1.1.7.22, 3.1.1.7.24, and 6.2.2 of the UFSAR (Ref. 9.47). Drawing M-29, Sheet 1 (Ref. 9.42) shows the spray headers, which confirms the UFSAR 6.2.2.2 statements that "these ring headers are provided with spray nozzles which will assure the proper distribution of water spray."
iii. In designing the layout of the spray nozzle positions and orientations, the effects of the postaccident atmosphere should be considered, including the effects of postaccident conditions that result in the maximum	The spray nozzles are designed to function in the post-accident containment atmosphere (Ref. 9.35).

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possible density of the containment atmosphere.	
C. Promotion of Containment Building Atmosphere Mixing. Because the effectiveness of the containment spray system depends on a well-mixed containment atmosphere, consideration should be given to all design features enhancing postaccident mixing.	The containment is well mixed following the LOCA per Section 2.3.
D. Spray Nozzles. The nozzles used in the containment spray system should be designed to minimize the possibility of clogging while producing drop sizes effective for iodine absorption. The nozzles should not have internal moving parts such as swirl vanes and turbulence promoters. They should not have orifices or internal restrictions which narrow the flow passage to less than 0.64 cm (0.25 inch) in diameter.	The nozzles used are designed to minimize the possibility of clogging, are air tested periodically to ensure they are not clogged, and are Spraying System Company Model # 1-1/2”-7G25 1.5 inch fog nozzles that do not have orifices or internal restrictions which narrow the flow passage to less than 0.25 inches in diameter (Ref. 9.37).
E. Spray Solution. The partition of iodine between liquid and gas phases and retention of iodine in the liquid is enhanced by the alkalinity of the solution. The spray system should be designed so that the spray solution is within material compatibility constraints. Iodine-scrubbing credit is given for spray solutions whose chemistry, including any additives, has been demonstrated to be effective for iodine absorption and retention under postaccident conditions.	The spray solution remains above a pH of 7 throughout the entire accident duration. Maintaining a pH above 7 has been demonstrated to be effective for iodine absorption and retention (Ref. 9.12.)
F. Containment Sump Solution Mixing. The containment sump should be designed to permit mixing of emergency core cooling system (ECCS) and spray solutions. Drains to the engineered safety features sump should be provided for all regions of the containment which would collect a significant quantity of the spray solution. Alternatively, allowance should be made for “dead” volumes in the determination of the pH of the sump solution and the quantities of additives injected.	The suppression pool is sufficiently mixed and has been demonstrated to be maintained above a pH of 7 throughout the accident (Ref. 9.12).
G. Containment Sump and Recirculation Spray Solutions. The pH of the aqueous solution collected in the containment sump after completion of injection of containment spray and ECCS water and all additives for reactivity control, fission product removal, or other purposes should be maintained at a level sufficiently high to provide assurance that significant long-term iodine reevolution does not occur. The expected long-term partition coefficient is used to calculate the long-term iodine retention. Long-term iodine retention may be assumed only when the equilibrium sump solution pH, after mixing and dilution with the primary coolant and ECCS injection, is above 7. This pH value should be achieved by the onset of the spray recirculation mode.	The spray solution remains above a pH of 7 throughout the entire accident duration and is achieved by the onset of the spray recirculation mode. (Ref. 9.12).
H. Storage of Additives. The design should provide facilities for the long-term storage of any spray additives. These facilities should be designed so that the additives required to achieve the design objectives of the system are stored in a state of continuous readiness whenever the reactor is critical for the design life of the plant. The storage facilities should be designed to prevent freezing, precipitation, chemical reaction, and decomposition of the additives. For sodium hydroxide storage tanks, heat tracing of tanks and piping is required whenever exposure to temperatures below 4.5 °C (40 °F) is predicted. An inert cover gas should be provided for solutions that may	The standby liquid control system stores the buffering solution in a continuous state of readiness (Ref. 9.12).

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deteriorate when exposed to air.	
I. Single Failure. The system should be able to function effectively and meet all the criteria in Subsection II with a single failure of an active component in the spray system, in any of its subsystems, or in any of its support systems.	The containment spray system is able to function effectively and meet all of the criteria in Subsection II with a single failure of an active component in the spray system, in any of its subsystems, or in any of its support systems. This is based on the functional criteria and design bases listed in Sections 3.1.1.7.22, 3.1.1.7.24, and 6.2.2 of the UFSAR (Ref. 9.47).

2.1.4 Dual Containment

Leakage from the primary containment is assumed to mix in 50% of the reactor building (RB) free air volume. The 50% mixing effectively reduces the RB net free volume by 50% when modeled for the containment & ESF leakage releases. Leakage from the RB is treated as an unfiltered ground level release at the nominal Standby Gas Treatment System (SBGTS) flow rate before adequate negative pressure is established. This time is taken from the drawdown calculation DRE19-0015 (Ref. 9.45). After -0.25” of water gauge negative pressure is established, RB releases are filtered by the SBGTS system and released through the station chimney.

2.1.5 Containment Purging

The containment purging during a LOCA is not a credible event for the DNPS (Reference 9.4, Item 3). Therefore, the release from containment purging is not analyzed per RG 1.183, Section A.7.

2.2 Post-LOCA ESF Leakage

The post-LOCA ESF leakage release model is shown in Figure 1. The ESF systems that recirculate suppression pool water outside of the primary containment are assumed to leak during their intended operation. This release source includes leakage through valve packing glands; pump shaft seals, flanged connections, and other similar components. The radiological consequences from the postulated leakage are analyzed and combined with the radiological consequences from other fission product release paths to determine the total calculated radiological consequences from the LOCA (see Section 8.1 of this calc). The ESF components are located in the RB.

2.2.1 Source Term

With the exception of noble gases, all the fission products released from the fuel to the containment (as defined in Sections 5.3.1.3 & 5.3.1.5) are assumed to instantaneously and homogeneously mix in the suppression pool water at the time of release from the core. The total ESF leakage from all components in the ESF systems is assumed to be 1 gpm. This ESF leakage is doubled (Reference 9.1, Section A.5.2) and assumed to start at time t = 0.0 minutes after the onset of a LOCA. With the exception of iodine, all remaining fission products in the recirculating liquid are assumed to be retained in the liquid phase. Since the temperature of the recirculating liquid is less than 212ºF, 10% iodine activity in the ESF is assumed to become airborne (Reference 9.4, Item 29). The design inputs for the ESF leakage are shown in Section 5.4. The reduction in ESF leakage activity by dilution in 50% of the RB volume and removal by the SBGTS filtration are credited.

2.2.2 Chemical Form

The radioiodine that is postulated to be available for release to the environment is assumed to be 97% elemental and 3% organic (Reference 9.1, Section A.5.6).

2.3 Post-LOCA MSIV Leakage

The post-LOCA MSIV Leakage model is shown in Figure 2. The four main steam lines, which penetrate the primary containment, are automatically isolated by the MSIVs in the event of a LOCA per Section 6.2.4 of the UFSAR (Reference 9.47). There are two MSIVs on each steam line, one inside containment and one outside containment. The MSIVs are functionally part of the primary containment boundary and design leakage through these valves provides a leakage path for fission products to bypass the secondary containment and enter the environment as a ground-level release. Following the initial blowdown of the

reactor pressure vessel (RPV), the steaming in the RPV carries fission products to the containment. When core cooling is restored, the steam and the ESF flow carry fission products from the core to the primary containment via the severed recirculation line, resulting in a well-mixed RPV dome and containment fission product concentrations. The MSIVs are postulated to leak at a total design leak rate of 250 scfh for Unit 2 and 350 scfh for unit 3 (see Appendix A). The radiological consequences from postulated MSIV leakage are analyzed and combined with the radiological consequences postulated for other fission product release paths to determine the total calculated radiological consequences from the LOCA (see Section 8.1 of this calc). The following assumptions are acceptable for evaluating the consequences of MSIV leakage.

2.3.1 Source Term

For the purpose of this analysis, the activity available for release via MSIV leakage is assumed to be that activity released into the drywell for evaluating containment leakage.

All four (4) main steam line (MSL) piping sections between the RPV nozzle and outboard MSIVs used in the MSIV leakage release paths remain intact and are capable of performing their safety function during and following a safe shutdown earthquake (SSE) (Ref. 9.38 through 9.41). Based on the structural integrity and functional performance of the MSL piping up to the outboard MSIV to withstand the SSE, the horizontal pipe surface area and volume is credited in the aerosol removal calculation. A total of 250 scfh MSIV leakage is assumed to occur as follows (see Section 2.3.2 for additional information regarding steam line selection):

(1) 100 scfh through the steam line with the failed inboard MSIV. The failure is assumed to cause a single MSL to have a disproportionately high flow to artificially increase the total allowed MSIV leakage. The steam line with the failure is the shortest of the four steam lines so increasing the flow rate in this steam line reduces the overall credited aerosol and elemental iodine removal. The deposition removal of aerosol in the horizontal pipe, and the deposition removal of elemental iodine in both the horizontal and vertical pipes, are credited in the steam line between the RPV nozzle and outboard MSIV.

(2) 100 scfh through first intact steam line. The deposition removal of aerosol in the horizontal pipe, and the deposition removal of elemental iodine in both the horizontal and vertical pipes, are credited in the steam line between the RPV nozzle and outboard MSIV.

(3) 50 scfh through second intact steam line. The deposition removal of aerosol in the horizontal pipe, and the deposition removal of elemental iodine in both the horizontal and vertical pipes, are credited in the steam line between the RPV nozzle and outboard MSIV.

(4) 0 scfh through the fourth steam line.

See Section 4.6.6 for additional discussion regarding MSIV leakage.

The aerosol deposition removal efficiencies for the main steam lines are determined based on the methodology in Appendix A of AEB-98-03 (Reference 9.5) using only the horizontal pipe projected area (Diameter x Length) as shown in Table 2. The calculation that uses the Appendix A AEB-98-03 (Reference 9.5) methodology is provided in Section 7.4.

2.3.2 Time Dependent Elemental Iodine Removal in Main Steam Lines

Gaseous iodine tends to deposit on the piping surface by chemical adsorption. Elemental iodine, being the most reactive, has the highest deposition rate. The iodine deposited on the surface undergoes both physical and chemical changes and can be re-emitted as an airborne gas (re-suspension) or permanently fixed to the surface (fixation). RG 1.183, Appendix A, Section 6.5 (Reference 9.1), indicates that the methodology given in Reference 9.31 provides acceptable models for deposition of iodine on the pipe surface. This methodology is used to determine the deposition and resuspension rates of elemental iodine as follows:

d_i = elemental iodine vapor deposition velocity (cm/s)
$= e^{(2809/T - 12.80\ (\pm 0.33))} = e^{(2809/T - 12.5)}$ (Ref. 9.31, pages 4 and 12)

Where T = gas temperature (°K), which is obtained from Table 39.

The elemental iodine deposition rate λ_{ed} (hr^{-1}) = di * S *3600 ÷ V (Ref. 9.31, page 4)

Where d_i = deposition velocity (m/sec)
S = surface area of deposition (m^2)

V = volume (m^3)

The steam line temperature as a function of time is given in Reference 9.31, Figure 7, which is reproduced in this section. The equation of the curve that closely fits Figure 7 is shown below:

$$T(^oK) = 299.7 + 265.6 * e^{-4.428*10^{-6}t}$$

where

t *time*, sec.

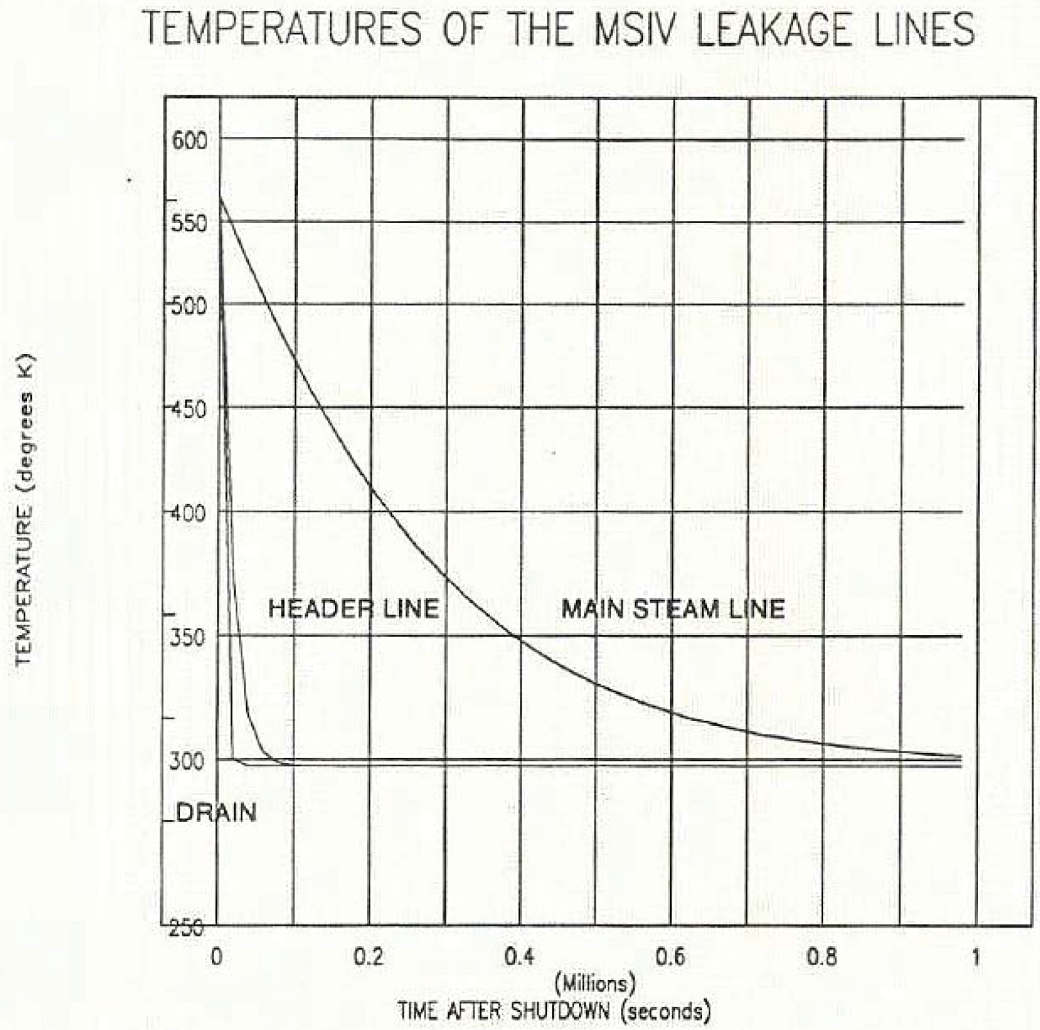


FIGURE 7. Temperature of the MSIV Leakage Pathway Piping as a Function of Time after Shutdown. The Rate of Cooling is Nearly Independent of the Flow Rate at the Low Rates Considered in the Present Analysis.

Using the above curve fit equation, the steam line temperatures at the different time intervals are calculated in Table 39 and used to calculate the elemental iodine deposition velocity (d_i) in Table 42. The deposition velocity in cm/sec is converted into m/sec and elemental iodine deposition rates at various steam line temperatures are calculated in Tables 43 through 46 for various well-mixed volumes V1 through V5.

A portion of elemental iodine deposited on the pipe surface will be resuspended as an airborne gas (organic iodine). Since the CR filtration efficiencies are the same for all iodine species, the resuspension of elemental iodine will produce the same thyroid organ dose irrespective of the form of iodine.

Resuspension rate of elemental iodine (sec^{-1}) (Ref. 9.31, page 12)

$= 2.32\ (\pm 2.00) \times 10^{-5}\ e^{-600/T} = 4.32 \times 10^{-5}\ e^{-600/T}$

Resuspension rate of elemental iodine λ_{er} (hr^{-1})
$= 4.32 \times 3600 \times 10^{-5}\ e^{-600/T}$

The resuspension rates of elemental iodine at various steam line temperatures are calculated in Table 47.

The elemental iodine removal rate (from the air via deposition, or from the pipe surface via resuspension) is related to the decontamination factor by the following equation

Net Deposition Rate of Elemental Iodine $\lambda_e = \lambda_{ed} - \lambda_{er}$

$1/DF = 1 - \eta = \exp^{(-\lambda e * t)}$ (Ref. 9.2, Equations 4 and 5, page 196)

Where DF = decontamination factor
η = filter efficiency for elemental iodine
λ_e = elemental iodine removal rate (hr^{-1}) t = time (hr)

Therefore, Elemental Iodine Filter Efficiency = $1 - e^{-(\lambda e * t)}$

The net amount of elemental iodine deposited on the pipe surface (i.e., net deposition efficiency) is equal to the amount of elemental iodine deposited on the pipe surface (prior to resuspension) minus the amount of elemental iodine that is resuspended from the pipe surface. The amount of elemental iodine that is resuspended from the pipe surface is equal to the product of the amount that was deposited on the pipe surface and the resuspension efficiency.

$\eta_{\text{net deposition}} = \eta_{\text{deposition}} - (\eta_{\text{deposition}} * \eta_{\text{resuspension}})$

The amount of elemental iodine deposited on the pipe surface (prior to resuspension) is the deposition efficiency as calculated using the previously described equation and the elemental iodine removal rates calculated in Table 43 through 46 for well-mixed volumes V1 through V5:

$\eta_{deposition} = 1 - e^{-(\lambda ed * t)}$

The resuspension efficiency is calculated using the previously described equation and the elemental iodine resuspension removal rates calculated in Table 47:

$\eta_{resuspension} = 1 - e^{-(\lambda er * t)}$

Therefore, the net amount of elemental iodine deposited on the pipe surface is:

$\eta_{net\ deposition} = [1 - e^{-(\lambda ed * t)}] - \{[1 - e^{-(\lambda ed * t)}] * [1 - e^{-(\lambda er * t)}]\}$

The corresponding filter efficiencies at various steam line temperatures are calculated in Table 48 through 51 for well-mixed volumes V1 through V5. The conservative values (at the beginning of each time interval) are used for each time step in RADTRAD model rather than using time interval average values for each time step. For conservatism, the elemental iodine filter efficiency is minimized by modeling a duration of 1 hour (i.e., t = 1 hour) for each post-LOCA time interval (e.g., 0 to 8 hours, 8 to 24 hours, etc.).

2.3.3 Determination of MSIV Leak Rates In Various Steam Line Volumes

The horizontal lengths of the three shortest steam headers in the Dresden plant (References 9.15 & 9.16) are compared with those in the Quad Cities Nuclear Power Station (QCNPS) (Reference 9.20, Section 7.3) to determine if the aerosol deposition filter efficiencies established for the QCNPS MSIV leakage release path analysis can be used for the Dresden MSIV leakage release path analysis. A comparison of the total horizontal lengths between the reactor pressure vessel and the outboard MSIV of the three shortest main steam piping runs of QCNPS, DNPS Unit 2, and DNPS Unit 3 is shown in Table 1C. It can be seen from the comparison that the QCNPS main steam piping runs are shorter, and would therefore result in less (i.e., conservative) aerosol deposition. Therefore, the settling velocities in the different steam lines (Table 2), the time dependent MSIV leak rates (Table 3), and the aerosol removal efficiencies (Table 4) are obtained from Reference 9.20 and conservatively used for the MSIV leakage analysis for the DNPS in the following section with the appropriate DNPS vs. QCNPS plant-specific changes. In the case that the QCNPS is retired earlier than the DNPS, then the conservative use of the shorter main steam lines as shown in Table 1C results in lesser aerosol deposition and higher dose consequences for the MSIV leakage path.

The total MSIV leakage from all main steam lines is 250 scfh measured at 43.9 psig, allowing a maximum of 100 scfh from any one of the 4 main steam lines. Since the actual MSIV leak rate is reduced at the accident condition due to the combined effects of compression (due to the high pressure) and expansion (due to the high temperature), the increase in the MSIV leak rates to the environment from the outboard MSIVs are conservatively calculated in Section 7.2 using the Ideal Gas Law and drywell post-LOCA peak pressure and temperature and listed in Table 3. The MSIV leak rates in Table 3 are used in the analysis with aerosol removal efficiencies calculated in Table 4 based on the horizontal pipe surface areas calculated in Section 7.3. The reduction in the containment leakage and MSIV leakage after 24 hours of onset of a LOCA is credited in the analysis. To account for the assumed mixing between the wetwell and drywell at 2 hours and the resulting activity dilution, the flow rate through the MSIVs is reduced by the ratio of the drywell volume to the total volume at two hours.

2.3.4 Recirculation Line Rupture Vs Main Steam Line Rupture

Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 defines LOCAs as those postulated accidents that result from a loss of coolant inventory at rates that exceed the capability of the reactor coolant makeup system. Leaks up to a double-ended rupture of the largest pipe of the reactor coolant system are included. The LOCA, as with all design basis accidents (DBAs), is a conservative surrogate accident that is intended to challenge selective aspects of the facility design. With regard to radiological consequences, a large-break LOCA is assumed as the design basis case for evaluating the performance of release mitigation systems and the containment response. Therefore, a recirculation line rupture is considered as the initiating event rather than a main steam line rupture.

Per UFSAR Section 6.2.1.3.5.1, the DBA for the Mark I containment design is the instantaneous guillotine rupture of the largest pipe in the primary system (the recirculation suction line). This LOCA leads to a specific combination of dynamic, quasi-static, and static loads in time. The thermal transient due to other postulated events including the steam line break inside the drywell does not impose maximum challenge to drywell pressure boundary and fuel integrity. The LOCA results in the maximum core damage and fission product release as shown in the RG 1.183 (Reference 9.1, Table 1). Therefore, a recirculation line rupture is considered to be the limiting event with respect to radiological consequences.

RG 1.183 (Reference 9.1, Appendix A, Section 6.5) allows reduction in MSIV releases that is due to holdup and deposition in main steam piping downstream of the MSIVs and in the main condenser, including the treatment of air ejector effluent by offgas systems, if the components and piping systems used in the release path are capable of performing their safety function during and following a safe shutdown earthquake (SSE). Although postulating a main steam line break in one steam line inside the drywell would maximize the dose contribution from the MSIV leakage, the steam line break is not a credible event during a LOCA, since the ASME Category 1 main steam piping is designed to withstand the SSE.

2.4 Control Room Model

The shielding analysis for CR operator exposure from various sources is performed in the following sections using the best available information from Exelon Engineering, and drawings provided by Exelon at the time of analysis. The shielding information is used in a reasonably conservative manner.

The post-LOCA control room RADTRAD nodalization is shown in Figure 3 with the design input parameters. The post-LOCA radioactive releases that contribute to the CR TEDE dose are as follows:

- Post-LOCA Containment Leakage
- Post-LOCA ESF Leakage
- Post-LOCA MSIV Leakage

The radioactivity from the above sources is assumed to be released into the atmosphere and transported to the CR air intake, where it may leak into the CR envelope or be filtered by the CR intake filtration system prior to being distributed in the CR envelope. The four major radioactive sources which contribute to the CR TEDE dose are:

- Post-LOCA airborne activity inside the CR
- Post-LOCA airborne cloud external to CR
- Post-LOCA containment shine to CR
- Post-LOCA Control Room Emergency Ventilation (CREV) filter shine

2.4.1 Post-LOCA Airborne Activity Inside CR

The post-LOCA radioactive releases from various sources are shown in Figures 1 and 2. The activities released from the various sources are diluted by atmospheric dispersion and carried to the CR air intake. The CR atmospheric dispersion factors are shown in Sections 5.6.9, 5.6.10, and 5.6.14 for the containment/ESF and MSIV leakages. The containment and ESF leakages have the same release point and χ/Qs. The RADTRAD release models are developed for each release path using appropriate design inputs from Sections 5.3 through 5.5. The CR dose model is developed using the design input parameters in Section 5.6. The CR airborne TEDE dose contributions from the above post-LOCA sources are calculated and tabulated in Section 8.1.

2.4.2 Post-LOCA Airborne Cloud External to CR

The post-LOCA radioactive plume contains the radioactive sources from the containment, ESF, and MSIV leakages. The gamma radiation external radioactive plume shine to the CR personnel is attenuated by the 1'-6" minimum concrete wall shielding (Reference 9.22.c). The RADTRAD3.03 code calculates the whole body gamma dose based on the semi-infinite cloud immersion at site boundary location (Reference 9.2, Section 2.3.1 and Reference 9.1, Section 4.1.4). Therefore, the χ/Qs for the LPZ receptor modeled in RADTRAD file DRE3MS395_Fram.psf (Framatome fuel), DRE3MS395_West.psf (Westinghouse fuel), and DRE3MS395_GNF3.psf (GNF3 fuel) are modified by replacing them with the χ/Qs for the CR air intake location. Since the containment and ESF leakages contribute insignificant CR doses (Section 8.0) as compared to the MSIV leakage dose, they are not considered important sources for the external cloud dose. In addition, after 24 hours, CR occupancy and hence exposure to the airborne cloud shine due to the MSIV release is reduced. To calculate the impact of CR occupancy factors, the CR χ/Q values for the MSIV release for the 24 to 96 hour and for the 96 to 720 hour time periods in Section 5.6.10 are multiplied by the CR occupancy factors of 0.6 and 0.4 respectively as shown in Section 5.6.13. The resulting LPZ whole body dose is the semi-infinite gamma dose at the CR air intake. The total whole body gamma doses are obtained from RADTRAD runs DRE3MS11_Fram.o0, DRE3MS11_West and DRE39MS11_GNF3.o0, respectively (Attachments 12.4a, 12.4b, and 12.4c). Since this is a semi-infinite dose at the CR air intake, it is appropriate to assign this dose to the CR roof. The gamma attenuation factor is calculated in Section 7.6 to be 0.0172 for a 1 Mev gamma emission. This attenuation factor includes the buildup due to multiple scattering. The resulting gamma doses from the external cloud shine are added with the dose contribution from other post-LOCA sources in Section 8.1.

2.4.3 Post-LOCA Containment Shine to CR

The CR location with respect to the RB is shown in Reference 9.21. The post-LOCA airborne activity in the containment (drywell) is released into the RB via containment leakage through the penetrations and openings and gets uniformly distributed inside the RB. The airborne activity confined in the space above the operating floor of the RB (Reference 9.21.d) contributes direct shine dose to the CR operator. The review of the control room area concrete structure drawings (Reference 9.22) indicates the concrete walls near Column 33 total 2'-4" thick (1'-6" + 10" = 2'-4") (Reference 9.22.b). The line of sight from the CR operator location to the RB source involves multiple shadow shields consisting of the concrete roof & walls and equipment. Therefore, the concrete shielding of 2'-6" is credited in the shielding model. Actually, a large shadow concrete shielding will interact with gamma dose direct line of sight from the CR operator to the RB

operating floor as shown Figure 4 (References 9.21 & 9.22). The CR operator direct shine dose is dependent on the shielding geometry between the CR and RB and post-LOCA source term. The shielding configuration (line of sight distance and intercepting concrete shielding) for the Dresden CR operator dose is identical to Quad Cities (Reference 9.20, Figure 4). For the given shielding geometry, the CR dose is dependent on the RB source term. The airborne activity confined in the space above the operating floor of the RB contributes direct shine dose to the CR operator. The 0-24 hrs post-LOCA RB airborne activity from the containment leakage and ESF leakage for the Framatome fuel are listed in Tables 5 & 6 and combined in Table 7 and for the Westinghouse fuel are listed in Tables 21 & 22 and combined in Table 23. The 0-24 hrs post-LOCA RB airborne activity from the containment leakage and ESF leakage for the GNF3 fuel are listed in Tables 35 & 36 and combined in Table 37. The combined activity is used in the MicroShield Computer Program (Reference 9.28) with the shielding geometry as shown in Figures 4 & 5 to calculate the gamma dose rate to a CR operator 7 feet above the CR operating floor. The material specific buildup factor used by the MicroShield code accounts for the scattering. The resulting gamma dose rates for the first 24 hours in the CR is presented in Tables 8, 24, and 38 (the dose rate at 24 hours is conservatively held constant for the remaining duration of the LOCA event (i.e., until 720 hours).The CR gamma dose is calculated in Table 8 for the Framatome fuel, Table 24 for the Westinghouse fuel, and Table 38 for the GNF3 fuel. The 720-hrs dose is further reduced based on the CR occupancy and RB source geometry in Sections 7.8 & 7.9. The resulting containment shine dose is listed in Section 8.1. The Dresden post-LOCA containment shine doses are added to the dose contributions from other post-LOCA sources in Section 8.1. For the MicroShield runs, the list of nuclides include the equilibrium activity for the daughters (i.e., Ba-137m, Pr-144, Rh-106, Rh-103m).

2.4.4 Post-LOCA CREV Filter Shine

The post-LOCA CREV filter shine dose was calculated in Revision 4 of this analysis for Framatome fuel and Westinghouse fuel and as described below was shown to be a negligible contributor to dose. This conclusion remains valid for Revision 5 of this calculation because even if the activity is doubled, the amount of iodine on the filters remains negligible. This conclusion is also valid for GNF3 fuel because as shown in Section 8.1, the doses associated with GNF3 fuel are less than double the Framatome and Westinghouse fuel doses. The discussion below and in Section 7.10 is retained as historical information.

The Dresden combined CR is located at the east end of the plant in the service building between Rows D & H, adjacent to Column 33 (Reference 9.22). The CREV charcoal filter Tag number 9400-101 was obtained from a general arrangement drawing (Reference 9.23.a) to locate the filter on the HVAC drawings (Reference 9.23). The CREV charcoal filter is located in the south-west corner of the service building at EL 534'-0" (Reference 9.23) near the intersection of Row H and Column 31. The CREV charcoal filter is located south of the CR. The post-LOCA CR doses listed in Section 7.0 indicate that the containment and ESF leakage contribute insignificant dose to the CR operator due to the large atmospheric dilution provided by their elevated releases from the SBGT station chimney. Therefore, only the MSIV leakage path is used to assess iodine and aerosol activity on the CR charcoal filter in the following section.

The RADTRAD3.03 code calculates the cumulative elemental and organic iodine atoms and the aerosol mass released to the environment from the main steam lines due to MSIV leakage at various time steps. The activity released to the environment is atmospherically dispersed to the control room HVAC intake louvers, where it is drawn into the CREV System. Section 7.10 and Tables 9 through 14 (Framatome fuel) and Tables 26 through 30 (Westinghouse Fuel) calculate the total elemental and organic iodine atoms and aerosol mass drawn into, and retained on, the CREV charcoal and HEPA filters. Section 7.10 conservatively neglects decay of the isotopes deposited on the CREV filters.

2.4.4.1 Post-LOCA Iodine Activity On CR Charcoal Filter – MSIV Leakage

The iodine atom/curie relationship is established using the containment leakage run DRE3CL395.o0 file and DRE39CL395.o0 file as shown in Tables 15 and 31, respectively, which is a typical relationship for all release paths. The total number of atoms accumulated on the charcoal filter is established in Section 7.10 based on the charcoal filter efficiency and CREV intake flow rate. Knowing the iodine atom/curie relationship (Table 15, Framatome fuel and Table 31, Westinghouse fuel) and the total number of elemental and organic iodine atoms on the charcoal filter (Tables 10 and 12, Framatome fuel) and (Tables 26 and 28, Westinghouse fuel), the total (elemental + organic) iodine activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Section 7.10 (Tables 16 and 32, Framatome and Westinghouse fuel types, respectively). The review of Table 16 (Framatome fuel) and Table 32 (Westinghouse fuel) indicates the accumulation of iodine is insignificant. This is as expected, because most of the elemental iodine is

removed by elemental deposition in the main steam piping before it is released to the environment and it is further reduced by air dilution before it migrates to the CR air intake.

2.4.4.2 Post-LOCA Aerosol Activity On CR HEPA Filter – MSIV Leakage

The aerosol mass/curie relationship is established using the containment leakage run DRE3CL395.o0 file and DRE39CL395.o0 file as shown in Tables 17 and 33, respectively, which is a typical relationship for all release paths. The total aerosol mass deposited on the CREV HEPA filter due to the MSIV leakage is calculated in Section 7.10 based on the HEPA filter efficiency and CREV intake flow rate. Knowing the aerosol mass/curie relationship (Tables 17, Framatome fuel and table 33, Westinghouse fuel), and the total mass of aerosols on the HEPA filter (Table 14 for Framatome fuel and Table 30 for Westinghouse fuel), the total aerosol activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Section 7.10 (Tables 18 and 34, Framatome and Westinghouse fuel types, respectively). The isotopic aerosol activity in Tables 18 and 34 (Framatome and Westinghouse fuel types, respectively) is insignificant. This is as expected, because most of the aerosols deposit out in the main steam piping horizontal surface before being released to the environment (see Table 4 for the aerosol removal efficiencies due to gravitational deposition).

2.4.4.3 Concrete Shielding With CREV Charcoal Filter

The CREV charcoal filter is located in the south-west corner of the service building at EL 534'-0" (Reference 9.23) near the intersection of Row H and Column 31. The CREV charcoal filter housing is at least 4.75' from the control room:

[(Distance between Rows H1 and H + Distance between Row H & south wall of CR + Thickness of CR south wall) – (Distance between the Column H1 & south edge of filter housing + length of filter housing)]

= [(9'-6") (Reference 9.22.b) + (14'-3") (Reference 9.22.b) + 1'-9"] – [4'-3" (Reference 9.23.a) +16'-6" (Reference 9.24)]
= 25'6"– 20'-9" = 4.75'

The line of sight between the CR operator location and the CREV filter is mainly intercepted by the 1'-9" concrete wall located at south of CR. (References 9.23.b & 9.23.c). In addition, shadow shielding is afforded by the equipment and duct work on the floor. The post-LOCA iodine and aerosol sources are small (Tables 16 & 18, Framatome fuel and Tables 32 &34, Westinghouse fuel) as discussed in Sections 2.4.4.1 & 2.4.4.2 above, which coupled with the large amount of concrete shielding that exists between the CR operator and the CREV charcoal filter, makes the CREV charcoal filter shine dose insignificant to the CR operator.

3.0 ACCEPTANCE CRITERIA

The following NRC regulatory requirement and guidance documents are applicable to this DNPS Alternative Source Term LOCA Calculation:

- Regulatory Guide 1.183 (Reference 9.1)
- 10CFR50.67 (Reference 9.3)
- Standard Review Plan section 15.0.1 (Reference 9.25)

Dose Acceptance Criteria are:

Regulatory Dose Limits			
Dose Type	Control Room (30 days) (rem TEDE)	EAB (Max 2 hours) (rem TEDE)	LPZ (30 days) (rem TEDE)
TEDE Dose	5	25	25

4.0 ASSUMPTIONS

The following assumptions used in evaluating the offsite and control room doses resulting from a Loss of Coolant Accident (LOCA) are based on the requirements in the Regulatory Guide 1.183 (Reference 9.1). These assumptions become the design inputs in Sections 5.3 through 5.7 and are incorporated in the analyses.

4.1 Source Term Assumptions

Acceptable assumptions regarding core inventory and the release of radionuclides from the fuel are provided in Regulatory Guide Positions (RGPs) 3.1 through 3.4 of Reference 9.1 as follows:

4.2 Equilibrium Core Inventory

The assumed inventory of fission products in the reactor core and available for release to the containment is based on the maximum power level of 3,016.14 MWt, which represents the maximum full power operation of the core at a power level equal to the Extended Power Uprate (EPU) thermal power level of 2,957 MWt plus a 2% margin for instrument uncertainty (Reference 9.4, Item 1). The equilibrium core inventory is described in Design Input 5.3.1.3.

4.3 Release Fractions and Timing

The core inventory release fractions, by radionuclide groups, for the gap release and early in-vessel damage for a Design Basis Accident (DBA) LOCA are listed in Design Input 5.3.1.5. These fractions are applied to the equilibrium core inventory (Reference 9.1, Tables 1 & 4). The release fractions are acceptable for use given that the peak fuel burnup meets the 62,000 MWD/MTU requirement specified in Regulatory Guide 1.183 (Reference 9.1, Note 10).

4.4 Radionuclide Composition

The elements in each radionuclide group to be considered in design basis analyses are shown in Design Input 5.3.1.4 (Reference 9.1, RGP 3.4).

4.5 Chemical Form

The long-term suppression pool water pH is greater than 7 during a LOCA with fuel cores containing Framatome and Westinghouse fuel (9.12, Section 7.0) with credit taken for sodium pentaborate in the Standby Liquid Control System. Consequently, the chemical forms of radioiodine released to the containment can be assumed to be 95% cesium iodide (CsI), 4.85% elemental iodine, and 0.15% organic iodide (Reference 9.1, RGPs 3.5 and A.2). These are shown in Design Input 5.3.1.7. With the exception of elemental and organic iodine and noble gases, fission products are assumed to be in particulate form (Reference 9.1, RGPs 3.5 and A.2).

The suppression pool pH LOCA calculation (Ref. 9.12) was intentionally not updated for the GNF3 fuel core inventory (Ref. 9.33) – it will be updated later as tracked by the unverified assumption AT 4254154-16.

4.6 Assumptions on Activity Transport in Primary Containment

4.6.1 The radioactivity released from the fuel is assumed to mix instantaneously and homogeneously throughout the free air volume of the primary containment. The radioactivity released from the fuel does not mix with the suppression pool air space until after two hours, as previously discussed in Section 2.3.2.

4.6.2 Reduction in airborne aerosol radioactivity in the containment by natural deposition is not credited (Reference 9.1, RGP A.3.2; & Reference 9.2, Section 2.2.2.1.2).

4.6.3 The primary containment and the MSIVs are assumed to leak at the peak pressure leak rate until 24 hours. The flow rates are reduced by half at 24 hours following the event based on discussion in Section 2.1.3. This only affects the flow rates modeled in RADTRAD. The aerosol removal efficiencies are conservatively calculated based on the non-reduced flow rates.

4.6.4 The Dresden Station does not purge containment to relieve containment pressure or to reduce containment hydrogen concentration (Reference 9.4, Item 3). Therefore, the release from containment purging is not analyzed.

4.6.5 Removal of airborne elemental iodine activity by wetted surface areas inside containment due to the iodine adsorption is not credited (Section 2.1.3).

4.6.6 The MSIV leakage rate through each MSIV leakage path is assumed to be 100/100/50 scfh at 43.9 psig and the combined leakage rate for all leakage paths is 250 scfh at 43.9 psig. This assumption is conservatively converted to flow rates at actual conditions using the Ideal Gas Law, allowable Technical Specification peak pressure of 43.9 psig (Reference 9.17.2) and a temperature of 291° F

(Reference 9.10). The Technical Specification leakage rate is based on test pressure and is multiplied by 1.603 to get the leak rate at 43.9 psig per Reference 9.49.

4.6.7 Drywell sprays are assumed to start 10 minutes following the event and continue until 4 hours following the event. Per DEOP 0200-01 (Ref. 9.34) and DOP 1500-03 (Ref. 9.35), drywell spray is initiated once drywell pressure exceeds 9 psig. This happens early in the event per Figure 3-1 of GE-NE-A22-00103-08-01 (Ref. 9.10).

4.6.8 Even though the spray should be used to reduce drywell pressure while maintaining at least 6 psig to ensure adequate NPSH for LPCI pumps (Reference 9.35), the spray is assumed to terminate at 4 hours post accident with respect to aerosol removal. The drywell pressures provided in Figure 3-1 and Table 3-2 of Reference 9.10 show the drywell pressure remains above the drywell spray initiation limit for this same design basis case. For the containment analysis case that minimizes containment pressure, Table 3-6 and Figure 3-12 of Reference 9.10 show that the pressure remains above approximately 7 psig until at least 40,000 seconds (11 hours) following the event, so 4 hours conservatively bounds the anticipated operator action to continue sprays until containment pressure reaches 6 psig.

4.6.9 Per Section 2.1.4, the containment leakage is assumed to mix with 50% of the RB volume. The containment leakage, if any, would most likely be associated with piping penetrations, which are located in the lower part of the containment. The small amount of containment leakage would have to diffuse through the secondary containment prior to being exhausted by the SBGTS to the environment. Significant mixing would occur as the leakage travels through the secondary containment prior to entering the SBGTS.

The SBGTS is a safety-related HVAC system. Although the SBGTS is not a mixing system per se, the system does take suction directly or indirectly from every portion of the RB, which provides mixing. Although no specific transport analysis was performed due to the unknown location of the potential leakage, it is reasonable to assume that the containment leakage would adequately mix in at least 50% of the RB volume due to the relatively small percentage of containment leakage (~ 2 cfm) as compared to the capabilities of the SBGTS (~4000 cfm per Ref. 9.45 and Ref. 9.17.1).

4.6.10 Because Revision 5 of this calculation utilizes containment sprays in addition to natural deposition in the main steam lines, it is important to determine the impact of crediting these removal methods concurrently. NUREG-CR-0009 is a compilation of experimental and theoretical information used by the NRC to develop the spray removal methodology in accident analyses. This report primarily is based on the containment systems experimental data described in report BNWL-1457. Per NUREG-CR-0009, aerosol removal by containment sprays is primarily due to the following mechanisms:

- Brownian diffusion
- Diffusiophoresis
- Interception
- Inertial impaction

In addition, NUREG-CR-0009 states that deposition of particles on wall surfaces (either containment walls or MSIV pipe walls) is due to the following mechanisms:

- Diffusion
- Thermophoresis
- Diffusiophoresis
- Turbulence in the wall boundary layer

The spray removal coefficients used in this calculation are based on the conservative values in Section 6.5.2 of NUREG-0800. The values assume that the ratio of a dimensionless collection efficiency to the average spray drop diameter should be 10 per meter initially (i.e., 1% efficiency for spray drops of 1 millimeter in diameter) and change abruptly to 1 spray drop per meter after the aerosol mass has been depleted by a factor of 50 (i.e., 98% of the suspended mass is 10 times more readily removed than the remaining 2%). Section J3.2.2 of NUREG-75/014 provides the technical basis for the formula used Section 6.5.2 of NUREG-0800 and in this calculation.

NUREG-75/014 Section J3.2.2 also provides the correlation to determine spray lambdas. The spray lambda calculation assumes that diffusiophoresis is not a mechanism for spray removal. This is confirmed by Figure VII J-4 of NUREG-75/014.

The main steam line aerosol removal model is based on AEB 98-03. This document states that additional conservatisms (that are not included in the AEB 98-03 well mixed model) include deposition by thermophoresis, diffusiophoresis, and flow irregularities.

Therefore, it is reasonable to consider the use of aerosol removal by sprays and aerosol removal in the main steam lines as independent removal mechanisms because they rely on different physical mechanisms with the exception of diffusiophoresis. However, neither the containment spray model nor the aerosol removal in main steam lines model consider removal by diffusiophoresis, which confirms the modeling is conservative with respect to the experimental data.

4.6.11 Two containment spray nozzle ring headers are located in the drywell (Ref. 9.42). There is no requirement to assume that either ring header is unavailable because the system is safety related and all of the spray nozzles can be supplied by any low pressure coolant injection pump via the normally open crosstie valves 2(3)-1501-32A(B) per Drawing M-29 (Ref. 9.42). The lower spray header elevation is used to calculate the fall height to minimize the spray removal coefficients. For the purposes of determining the sprayed and unsprayed volumes of containment, the volume below the upper spray nozzles is credited. Using the upper spray nozzles for the drywell increases the sprayed volume which decreases the calculated dose. At some point during the LOCA, the CR operators may isolate one of the spray ring headers per DOP 1500-03 (Ref. 9.35) to ensure adequate NPSH for the LPCI pumps but DOP 1500-03 does not specify which spray ring header to isolate. The use of the upper spray nozzles to calculate the drywell volume is acceptable and more than offset by the conservative assumption of the spray shutoff time in Assumption 4.6.8.

4.7 Offsite Dose Consequences

The following assumptions are used in determining the TEDE for a maximum exposed individual at EAB and LPZ locations:

4.7.1 The offsite dose is determined as a TEDE, which is the sum of the committed effective dose equivalent (CEDE) from inhalation and the deep dose equivalent (DDE) from external exposure from all radionuclides that are significant with regard to dose consequences and the released radioactivity (Reference 9.1, RGP 4.1.1; and References 9.7 & 9.8). The RADTRAD3.03 computer code (Reference 9.2) performs this summation to calculate the TEDE.

4.7.2 The offsite dose analysis uses the Committed Effective Dose Equivalent (CEDE) Dose Conversion Factors (DCFs) for inhalation exposure. (Reference 9.1, RGP 4.1.2; and References 9.7 & 9.8).

4.7.3 Since RADTRAD3.03 calculates Deep Dose Equivalent (DDE) using whole body submergence in semi-infinite cloud with appropriate credit for attenuation by body tissue, the DDE can be assumed nominally equivalent to the Effective Dose Equivalent (EDE) from external exposure. Therefore, the offsite dose analysis uses EDE in lieu of DDE Dose Conversion Factors in determining external exposure (Reference 9.1, RGP 4.1.4; and Reference 9.8).

4.7.4 The maximum EAB TEDE for any two-hour period following the start of the radioactivity release is determined and used in determining compliance with the dose acceptance criterion in 10 CFR 50.67 (Reference 9.1, RGP 4.1.5 & RGP 4.4; and Reference 9.3).

EAB Dose Acceptance Criterion: 25 Rem TEDE (50.67(b)(2)(i))

4.7.5 TEDE is determined for the most limiting receptor at the outer boundary of the LPZ and is used in determining compliance with the dose criterion in 10 CFR 50.67 (Reference 9.1, RGPs 4.1.6 and 4.4; and Reference 9.3).

LPZ Dose Acceptance Criterion: 25 Rem TEDE (50.67(b)(2)(ii))

4.7.6 No correction is made for depletion of the effluent plume by deposition on the ground (Reference 9.1, RGP 4.1.7).

4.7.7 The breathing rates used for persons at offsite locations is given in Reference 9.1, RGPs 4.1.3 & 4.4. These rates are incorporated in Design Inputs 5.7.3 & 5.7.6.

4.8 Control Room Dose Consequences

The following guidance is used in determining the TEDE for maximum exposed individuals located in the control room:

4.8.1 The CR TEDE analysis considers the following sources of radiation that will cause exposure to control room personnel (Reference 9.1, RGP 4.2.1). See applicable Design Inputs 5.6.1 through 5.6.14.

- Contamination of the control room atmosphere by the intake or infiltration of the radioactive material contained in the post-accident radioactive plume released from the facility (via CR air intake),
- Contamination of the control room atmosphere by the intake or infiltration of airborne radioactive material from areas and structures adjacent to the control room envelope (via CR unfiltered inleakage),
- Radiation shine from the external radioactive plume released from the facility (external airborne cloud),
- Radiation containment shine from radioactive material in the reactor containment, and
- Radiation shine from radioactive material in systems and components inside or external to the control room envelope, e.g., radioactive material buildup in recirculation filters (CR filter shine dose).

4.8.2 The radioactivity releases and radiation levels used for the control room dose are determined using the same source term, transport, and release assumptions used for determining the EAB and the LPZ TEDE values (Reference 9.1, RGP 4.2.2).

4.8.3 The occupancy and breathing rate of the maximum exposed individual present in the control room are incorporated in Design Inputs 5.6.11 & 5.6.12 (Reference 9.1, RGP 4.2.6).

4.8.4 10 CFR 50.67 (Reference 9.3) establishes the following radiological criterion for the control room. This criterion is stated for evaluating reactor accidents of exceedingly low probability of occurrence and low risk of public exposure to radiation, e.g., a large-break LOCA (Reference 9.1, RGP 4.4).

CR Dose Acceptance Criterion: 5 Rem TEDE (50.67(b)(2)(iii))

4.8.5 Credit for engineered safety features that mitigate airborne activity within the control room is taken for control room isolation/pressurization and intake filtration (Reference 9.1, RGP 4.2.4). The control room design is often optimized for the DBA LOCA and the protection afforded for other accident sequences may not be as advantageous. In most designs, control room isolation is actuated by engineered safety feature (ESF) signals or radiation monitors (RMs). In some cases, the ESF signal is effective only for selected accidents, placing reliance on the RMs. Several aspects of RMs can delay the isolation, including the delay for activity to build up to concentrations equivalent to the alarm setpoint and the effects of different radionuclide accident isotopic mixes on monitor response. The CR emergency filtration system is conservatively assumed to be initiated at 40 minutes (Design Input 5.6.2) after a LOCA (refer to Figure 3).

4.8.6 The CR unfiltered inleakage is conservatively assumed to be 4,000 cfm (including 10 cfm for CR ingress and egress) during normal mode of CR HVAC operation. The normal outside intake flow rate is 2,000 cfm $\pm$ 10% so assuming the inleakage is double the nominal intake is conservative for this analysis. This inleakage rate bounds the latest tracer gas test inleakage of 534 cfm (495 $\pm$ 39 cfm) during isolation – recirculation mode. The tracer gas test was last performed in February 2015 (Ref. 9.19). This tracer gas test data corresponds to a toxic gas scenario where recirculation in the control room is being provided by Control Room Emergency Ventilation System (CREVS) train B. This scenario does not represent normal operation of the CR HVAC with 2,000 cfm of intake, but demonstrates that even with a negative pressure in the CR with no makeup, an inleakage value of 534 cfm is bounded by the modeled 4,000 cfm (including 10 cfm for CR ingress and egress) (Ref. 9.46).

4.8.7 The CR TEDE analysis considers the contamination of the control room atmosphere by the intake or infiltration of airborne radioactive material from areas and structures adjacent to the control room envelope (via CR unfiltered inleakage). The maximum measured CR unfiltered inleakage would be 234 scfm (190 ± 44 scfm) based on the latest tracer gas test performed at DNPS (Reference 9.19). Only one train of the CREV is conservatively credited in the analysis. The CR unfiltered inleakage during emergency ventilation mode is reduced from 400 cfm (including 10 cfm for CR ingress and

egress) to 395 cfm to create additional CR dose margin. The reduced unfiltered inleakage of 395 cfm is still conservatively greater than the measured values of 234 cfm (Train A) and 54 cfm (Train B). Even if the Trains A and B inleakage rates were to be added together, the result would be 234 + 54 = 288 scfm (Trains A + B) under the "isolation pressurization mode" (i.e., isolated with AFU in operation), which is also less than the modeled value of 395 cfm (including 10 cfm for CR ingress and egress) (Reference 9.19 and 9.29).

4.8.8 No credits for KI pills or respirators are taken (Reference 9.1, RGP 4.2.5).

5.0 DESIGN INPUTS

5.1 General Considerations

5.1.1 Applicability of Prior Licensing Basis

The implementation of an AST is a significant change to the design basis of the facility and assumptions and design inputs used in the analyses. The characteristics of the AST and the revised TEDE dose calculation methodology may be incompatible with many of the analysis assumptions and methods currently used in the facility's design basis analyses. The Dresden Station specific design inputs and assumptions used in the TID-14844 analyses were assessed for their validity to represent the as-built condition of the plant and evaluated for their compatibility to meet the AST and TEDE methodology. The analysis in this calculation ensures that assumptions, design inputs, and methods are compatible with the requirements of the AST and the TEDE criteria.

5.1.2 Credit for Engineered Safety Features

Credit is taken only for those accident mitigation features that are classified as safety-related, are required to be operable by Technical Specifications, are powered by emergency power sources, and are either automatically actuated or, in limited cases, have actuation requirements explicitly addressed in emergency operating procedures. The single active component failures modeled in this calculation are the MSIV in one main steam line failing to close and the operation of the CREV system failing to start by Safety Injection signal.

5.1.3 Assignment of Numeric Input Values

The numeric values that are chosen as inputs to analyses required by 10 CFR 50.67 are compatible to AST and TEDE dose criteria and selected with the objective of maximizing the postulated dose. As a conservative alternative, the limiting value applicable to each portion of the analysis is used in the evaluation of that portion. The use of containment, ESF, and MSIV leakage values higher than actually measured, use of a 10% higher flow rate for the CR Normal Operation air intake, use of a 10% lower flow rate for the CR Emergency Ventilation Mode air intake, 40 minutes delay in the CR Emergency Ventilation Mode initiation time, and use of ground release χ/Qs demonstrate the inherent conservatisms in the plant design and post-accident response.

5.1.4 Meteorology Considerations

Atmospheric dispersion factors (χ/Qs) for the onsite release points such as the SBGTS stack for containment and ESF leakage release path and the edge of the MSIV room for the MSIV leakage release path are developed (Reference 9.11) using the NRC sponsored computer codes ARCON96 and PAVAN. The EAB and LPZ χ/Qs are developed using the Dresden Station plant specific meteorology and appropriate regulatory guidance (Reference 9.11).

5.2 Accident-Specific Design Inputs/Assumptions

The design inputs/assumptions utilized in the EAB, LPZ, and CR habitability analyses are listed in the following sections. The design inputs are compatible with the requirements of the AST and TEDE dose criteria and the assumptions are consistent with those identified in Regulatory Position 3 and Appendix A of RG 1.183 (Reference 9.1). The design inputs and assumptions in the following sections represent the as-built design of the plant.

Design Input Parameter	Value Assigned	Reference
5.3 Containment Leakage Model Parameters		
5.3.1 Source Term		
5.3.1.1 Thermal Power Level	3,016.1 MWt (includes 2% margin)	9.4, Item 1
5.3.1.2 Peak Fuel Burnup	62,000 MWD/MTU	9.4, Items 5 and 6
5.3.1.3 Isotopic Core Inventory (Ci/MWt) [See Table 1A (Framatome), Table 20A (Westinghouse), and Table 1B (GNF3)]		
5.3.1.4 Radionuclide Composition		
Group	**Elements**	
Noble Gases	Xe, Kr	9.1, RGP 3.4, Table 7
Halogens	I, Br	
Alkali Metals	Cs, Rb	
Tellurium Group	Te, Sb, Se	
Barium, Strontium	Ba, Sr	
Noble Metals	Ru, Rh, Pd, Mo, Tc, Co	
Lanthanides	La, Zr, Nd, Eu, Nb, Pm, Pr, Sm, Y, Cm, Am	
Cerium	Ce, Pu, Np	
5.3.1.5 Release Fraction (Ref 9.1, Table 1)		
BWR Core Inventory Fraction Released Into Containment		
Group	**Gap Release Phase**	**Early In-Vessel Release Phase**
Noble Gases	0.05	0.95
Halogens	0.05	0.25
Alkali Metals	0.05	0.20
Tellurium Metals	0.00	0.05
Ba, Sr	0.00	0.02
Noble Metals	0.00	0.0025
Cerium Group	0.00	0.0005
Lanthanides	0.00	0.0002
5.3.1.6 Timing of Release Phase (Reference 9.1, Table 4)		
Phase	**Onset**	**Duration**
Gap Release	2 min	0.5 hr
Early In-Vessel Release	0.5 hr	1.5 hr
5.3.1.7 Iodine Chemical Form		
Aerosol (CsI)	95%	9.1, RGP 3.5
Elemental	4.85%	
Organic	0.15%	
5.3.2 Activity Transport in Primary Containment		
5.3.2.1 Drywell Air Volume	158,000 ft^3	9.4, Items 13 and 19
5.3.2.2 Drywell plus Suppression Chamber Free Air Volume	278,000 ft^3 However, 269,000 ft^3 is conservatively used to calculate the MSIV leak rates beyond 2 hours for consistency with Reference 9.20	9.4, Item 19

Design Input Parameter	Value Assigned	Reference
5.3.2.3 Containment Elemental Iodine Removal Model	Standard Review Plan 6.5.2	9.4, Item 13
5.3.2.4 Drywell Surface Area for Deposition/Plateout Model	32,250 ft^2 (but not credited)	9.4, Item 13
5.3.2.5 Particulate (Aerosol) Deposition/Plateout Model	Not credited	9.4, Item 14
5.3.2.6 Reactor Building (Secondary Containment) Free Volume	4,500,000 ft^3	9.4, Item 22
5.3.2.7 Containment Leak Rate into Reactor Building	3.0 v%/day (0 to 24 hours). 1.5 v%/day (1 day to 30 days)	9.17.2
5.3.2.8 Fraction of Containment Leakage that Bypasses the Standby Gas Treatment System (SBGTS) due to High Winds	100% (during 25 minute drawdown period) 0% (following 25 minute drawdown period)	9.4, Item 24 9.45
5.3.2.9 Fraction of Reactor Building Available for Mixing	0.5	9.1, RGP A.4.4 9.4, Item 23
5.3.2.10 SBGTS Exhaust Rate	4,000 cfm ± 10%	9.4, Item 21 9.17.1
5.3.2.11 SBGTS Exhaust Charcoal and HEPA Filter Efficiencies		
Elemental Iodine	90%	Section 7.9
Organic Iodide	90%	
Particulate Aerosols	98%	
5.3.2.12 Containment Spray Parameters		
Volumetric flow rate of the spray pump	2,352 gpm	9.37 9.44
Elevation of Lower Drywell Spray Header	529' – 9"	
Elevation of Bottom of Drywell Floor	502' – 4"	
5.4 ESF Leakage Model Parameters		
5.4.1 Suppression Pool Water Volume	110,000 ft^3	9.4, Item 27
5.4.2 Sump Water Activity (Reference 9.1, RGP A.5.1, A.5.3 & Tables 1 & 4)		
Group	Gap Release Phase	Early In-Vessel Release Phase
Timing Duration (Hrs)	2 min – 0.50 Hr	0.50 – 2.0 Hr
Halogen	0.05	0.25
5.4.3 ESF Leakage Rate	2 gal/min (= 2 × 1 gal/min allowable leakage rate)	Assumed; 9.1, RGP A5.2
5.4.4 ESF Leakage Initiation Time and Duration	0 to 30 days	9.4, Item 31
5.4.5 Suppression Pool Scrubbing	not credited	9.1, RGP A.3.5
5.4.6 Long-Term Suppression Pool Water pH	> 7.0	9.12, Section 7.0, 9.1, RGP A.2
5.4.7 Fraction of Iodine in ESF Leakage that becomes Airborne	0.10	9.4, Item 29; 9.1, RGP A.5.5
5.4.8 Chemical Form of Iodine in ESF Leakage		
Elemental	97%	9.1, RGP A.5.6
Organic	3%	
5.4.9 Fraction of Reactor Building Available for ESF Leakage Mixing	0.5	9.4, Item 32
5.4.10 Percentage of ESF Leakage that is filtered by the SBGTS	0% (during 25 minute drawdown period) 100% (following 25 minute drawdown period)	9.45
5.5 MSIV Leakage Model Parameters		

Design Input Parameter	Value Assigned	Reference
5.5.1 Total MSIV Leak Rate Through All Four Lines	250 scfh @ 43.9 psig for 0 to 24 hours and 125 scfh for 1 day to 30 days	Assumed, Section 4.6.6
5.5.2 MSIV Leak Rate Through One Line With MSIV Failed	100 scfh @ 43.9 psig for 0 to 24 hours and 50 scfh for 1 day to 30 days	Assumed - Section 4.6.6
5.5.3 MSIV Leak Rate Through Three Intact Lines		
First Intact Line	100 scfh @ 43.9 psig for 0 to 24 hours and 50 scfh for 1 day to 30 days	Assumed - maximum leakage rate through any one line
Second Intact Line	50 scfh @ 43.9 psig for 0 to 24 hours and 25 scfh for 1 day to 30 days	Assumed – remainder of unallocated leakage
Third Intact Line	0 scfh @ 43.9 psig for 0 to 30 days	Assumed – remainder of unallocated leakage
5.5.4 Natural Removal Efficiency For Elemental Iodine In Each Steam Line Volume	Cline Time-dependent methodology	Section 2.3.2
5.6 Control Room Model Parameters		
5.6.1 CR Envelope Pressure Boundary Free Volume	81,000 ft^3	9.4, Item 34
5.6.2 CREV Filtration System Actuation Time Following a LOCA	40 minutes	9.4, Item 40
5.6.3 CR Normal Operation Unfiltered Ventilation Air Intake	2,000 cfm ± 10%	9.4, Item 41
5.6.4 CR Emergency Ventilation Mode Air Intake Rate	2,000 cfm ± 10%	9.4, Item 42
5.6.5 CR Emergency Ventilation Mode Air Recirculation Rate though Filters	0 cfm	9.4, Item 45
5.6.6 CR Unfiltered Inleakage during Normal Operation	4,000 cfm (includes ingress/egress inleakage of 10 cfm)	Section 4.8.6
5.6.7 CR Unfiltered Inleakage during Emergency Ventilation Mode	395 cfm (includes ingress/egress inleakage of 10 cfm)	Section 4.8.7
5.6.8 CR Emergency Ventilation Mode Intake Charcoal and HEPA Filter Efficiencies		
Elemental Iodine	99%	Section 7.9
Organic Iodide	99%	
Particulate Aerosols	99%	
5.6.9 CR χ/Qs For Containment & ESF Leakage Release Via SBGTS Stack (Station Chimney) Release		
Time	**X/Q (sec/m^3)**	
0-2	6.42E-06	9.11, Table 3-6
2-8	2.87E-06	
8-24	1.92E-06	
24-96	8.03E-07	
96-720	2.29E-07	
5.6.10 CR X/Qs For MSIV Leakage Release Via Unit 2 MSIVs		
Time	**X/Q (sec/m^3)**	
0-2	1.30E-03	9.11, Table 4-1
2-8	1.06E-03	
8-24	4.49E-04	
24-96	2.96E-04	
96-720	2.44E-04	

Design Input Parameter	Value Assigned	Reference
5.6.11 CR Occupancy Factors		
Time (Hr)	**%**	
0-24	100	9.1, RGP 4.2.6
24-96	60	
96-720	40	
5.6.12 CR Breathing Rate	3.5E-04 m^3/sec	9.1, RGP 4.2.6
5.6.13 CR X/Qs For MSIV Leakage Release Via Unit 2 MSIVs for External Cloud Dose Only		
Time	**X/Q (sec/m^3)**	
0-2	1.30E-03	Changes to Design Input 5.6.10: 24-96 hr value revised using CR occupancy factor of 0.6 96-720 hr value revised using CR occupancy factor of 0.4
2-8	1.06E-03	
8-24	4.49E-04	
24-96	*1.78E-04*	
96-720	*9.76E-05*	
5.6.14 CR X/Qs For Containment & ESF Leakage Release Via Reactor Building Vent Ground Release		
Time (hrs)	**X/Q (sec/m^3)**	9.11, Table 4-1 (used during drawdown period)
0-0.41667	6.44E-04	
5.7 Offsite Dose Receptor Release Model Parameters		
5.7.1 EAB X/Qs For Containment & ESF Leakage Release Via SBGTS Stack (Station Chimney) Release		
Time (hrs)	**X/Q (sec/m^3)**	
0-0.5	8.74E-05	9.11, Table 4-1
0.5-720	6.74E-06	
5.7.2 EAB X/Q For MSIV Leakage Release		
Time (hrs)	**X/Q (sec/m^3)**	
0-720	2.51E-04	9.11, Table 4-1
5.7.3 EAB Breathing Rate	3.5E-04 m^3/sec	9.1, RGP 4.1.3
5.7.4 LPZ X/Qs For Containment & ESF Leakage Release Via SBGTS Stack (Station Chimney) Release		
Time (hrs)	**X/Q (sec/m^3)**	
0-0.5	1.55E-05	9.11, Table 4-1
0.5-2	8.30E-06	
2-8	3.57E-06	
8-24	2.34E-06	
24-96	9.39E-07	
96-720	2.53E-07	
5.7.5 LPZ X/Qs For MSIV Leakage Release		
Time (hrs)	**X/Q (sec/m^3)**	
0-2	2.63E-05	9.11, Table 4-1
2-8	1.09E-05	
8-24	7.02E-06	

Design Input Parameter	Value Assigned	Reference
24-96	2.70E-06	
96-720	6.86E-07	
5.7.6 LPZ Breathing Rates		
Time (hrs)	**BR (m^3/sec)**	
0-8	3.5E-04	9.1, RGPs 4.1.3 & 4.4
8-24	1.8E-04	
24-720	2.3E-04	
5.7.7 EAB X/Qs For Containment & ESF Leakage Release Via Reactor Building Vent Ground Release		
Time (hrs)	**X/Q (sec/m^3)**	9.11, Table 4-1
0-0.41667	2.51E-04	
5.7.8 LPZ X/Qs For Containment & ESF Leakage Release Via Reactor Building Vent Ground Release		
Time (hrs)	**X/Q (sec/m^3)**	9.11, Table 4-1
0-0.41667	2.63E-05	

5.8 CHANGES BETWEEN REVISION 4 AND REVISION 5

Revision 5 of this calculation makes several changes to the methodology and inputs in the calculation that will need to be described in a license amendment request to the NRC. These changes are described in the table below.

Parameter	Comments
Increased combined MSIV leakage from 150 scfh to 250 scfh for Unit 2 and 350 scfh for Unit 3.	This is an assumed input to the calculation.
Credited drywell spray	Drywell spray meets the requirements in NUREG-0800 Section 6.5.2 as demonstrated in Section 2.1.3 and has been previously accepted for Nine Mile Point Units 1 and 2, Oyster Creek, and Hatch
Credited aerosol deposition in horizontal main steam upstream of the inboard MSIV in the “failed” MSL	These lines are seismically designed so will be available for deposition following a LOCA. The assumed failure is not a steam line break so the entire volume of piping upstream of the inboard MSIV is available for aerosol deposition.
SGT System Exhaust Charcoal Filter Efficiencies changed from 80% to 90%	Seciton 7.9 calculates a filter efficiency of 95% using the appropriate safety factors. 90% is conservatively chosen.
Added time dependent elemental iodine removal coefficients in the steam lines	It is correct to use time dependent values despite the NRC recommendation to use 50% removal efficiency in AEB 98-03. This is allowed by RG 1.183 and is a conservative change.

Parameter	Comments
Reduced MSIV and containment leakage by 50% at 24 hours after a LOCA	This is allowed by RG 1.183 and is supported by the reduced containment pressure at 24 hours after a LOCA. This only affects the flow rates modeled in RADTRAD. The aerosol removal efficiencies are conservatively calculated based on the non-reduced flow rates.
Reduced control room unfiltered inleakage during normal operation from 60,000 cfm to 4,000 cfm	This conservative flow rate is more than double the nominal normal intake flow rate. See Assumption 4.8.6.
Removed credit taken for natural deposition (plateout) of elemental iodine on the containment walls	Since drywell sprays are credited at 10 minutes and a maximum DF of 200 is allowed by RG 1.183, it is not necessary to consider natural deposition as a removal mechanism.
Added a secondary containment drawdown time of 25 minutes.	The secondary containment may not be maintained at a negative pressure following a LOCA so this drawdown time period is established based on the drawdown calculation (Ref. 9.45).
Removed credit for Powers' deposition model.	Since drywell sprays are credited at 10 minutes, it is not necessary to consider natural deposition as a removal mechanism.
Separated MSIV leakage from total containment leakage	Previously, MSIV leakage was subtracted from total containment leakage. Now, the containment is assumed to leak at the full 3% vol/day leakage allowable (reduced to 1.5% vol/day at 24 hours).
Added unit specific MSIV leakage rates, atmospheric dispersion coefficients, and resulting doses	The Unit 3 control room atmospheric dispersion coefficients are lower than the Unit 2 control room atmospheric dispersion coefficients, so a higher MSIV leak rate for Unit 3 is analyzed.
Added analysis of GNF3 fuel	This fuel type will be used in future core reloads.

6.0 COMPUTER CODES & COMPLIANCE WITH REGULATORY REQUIREMENTS

6.1 Computer Codes

All computer codes used in this calculation have been approved for use with appropriate Verification and Validation (V&V) documentation. Computer codes used in this analysis include:

- **RADTRAD** (Reference 9.2): This is an NRC-sponsored code approved for use in determining control room and offsite doses from releases due to reactor accidents. EXELON performed in-house V&V of the RADTRAD3.03 code (Reference 9.26). RADTRAD also has been approved for use in this calculation as documented by Enercon Services, Inc., RADTRAD Computer Software Acceptance (Ref. 9.27). For this calculation, all 18 error notices posted to the RADTRAD Industry Users Group's website (radtrad.com) were reviewed as documented in the table below. Input files for RADTRAD, Version 3.03 were run on machine LAP7-533-JH located in the ENERCON office in Kennesaw, Georgia.

RADTRAD Error Notice Number	Error Description	Discussion
1	When a user runs requests that a control room be added to the dose model the GUI will generate a default breathing rate. If the user has previously specified a delay time, then the default time versus breathing rate table has incorrect time values (they are not updated). The end result is that RADTRAD will not execute (the code crashes).	The control room model has the correct breathing rate and the code executes as intended.
2	Calculation to determine the Worst 2 hour EAB dose can exceed array length in at least one case. The resulting overwrite causes an incorrect value of the time to be reported by the code. This does not result in erroneous dose values.	The dose values reports are not impacted.
3	When a user runs the GUI version through the acceptance test case sequence, some results are different from those calculated by the batch version. For example test case 14 after test case 13 will have additional time periods edited, dose results are not affected.	This error does not impact code results.
4	When a user runs the GUI version through the acceptance test case sequence, some results are different from those calculated by the batch version. For example test case 1a after test case 19 will have an incorrect value for the worst 2 hour EAB dose. The edited value at 2 hours is correct.	This error does not impact code results.
5	When a user chooses the Powers deposition models (either sprays or natural decontamination) they go to the Aerosol Model Screen. The GUI indicates that the percentile option has been initialized, but is not and results in a termination when the calculate button is initiated.	This error does not impact code results.
7	The addition of offsite dose calculations to the control room dose calculation reduced the control room dose by a factor of 2.	The control room χ/Q time steps align with the other dose locations. No impact on results.
8	Unknown to the user, the RADTRAD 3.03 GUI automatically modifies any compartment, using Powers' Natural Deposition, to the "PWR Design Basis" containment model, whenever the panel for that given compartment is opened. Therefore, the compartment panel cannot be viewed without one having to return the selection to whatever containment model that the user desired. (Mscisz) The program has a case set-up screen for options where the user selects the reactor type to determine fission product species for the event and a separate selection of the Powers aerosol decontamination factor. Normally if a case is created, saved, and then executed the selected options are used. If a case is re-opened, to check or correct the data inputs for example, the program automatically resets the options to PWR - DBA and 10th percentile Powers aerosol decontamination factor. If the case is then run without checking these options then the case is executed with the defaults.(Re)	The Powers' natural deposition model is not used.
9	Do you know of any previously reported error in RADTRAD associated with the use of all 10 Volumes? Two of us have separately run into problems when specifying a 10th volume in two separate models. It seems that when the 10th volume is specified, it somehow alters the source term associated with Volume #1.	10 compartments are not used in the model so this error is not applicable.
10	When running RADTRAD with reduced time steps the code generates different inventories for some nuclides	The code is run with the acceptable time step of 0.1 hour in the first time period as discussed in the error notice.
11	When running RADTRAD with only Tellurium nuclides why is the concentration of iodine daughters so low?	RADTRAD runs with only Tellurium nuclides are not made.

RADTRAD Error Notice Number	Error Description	Discussion
12	When running RADTRAD with Powers' Natural Deposition model, the code generates inventories at 24 hours that may vary by as much as 2% when I add time intervals.	The Powers' natural deposition model is not used.
13	When running RADTRAD with abrupt flow changes the user can affect dose results by changing the time steps. For example, flow out a PORV is stopped after a few minutes and then that flow is re-directed to a secondary containment. If the time steps are uncontrolled, excessive release from the secondary can occur. This significantly affects the results from TID source terms.	The RADTRAD model includes flow changes but time steps are adequate to minimize the effects on the results. Any effects of this error are in the conservative direction, so no negative impact on results.
14	When using the Powers' spray model the use of an alpha =1 (total compartment is sprayed) is inconsistent with the Powers' model as developed in NUREG/CR-5966 and as implemented in RADTRAD.	The Powers' spray model is not used.
15	When using the natural deposition User input option, if the User does not specify a set of aerosol deposition values the code fails.	Natural deposition is not used.
16	RADTRAD has the capability to analyze the decay of radionuclides from the time of shutdown. The ability was first implemented in version 2.02 with full implementation in version 3.02 and additional modification to allow multiple source term compartments was implemented in version 3.03. All options were separate effects tested in version 3.03. This program error was found to only occur if the user selects: (I) a timed release, i.e. TIO and puff releases (as in a fuel handling or main steam line break scenario) are not affected, (2) more than one compartment receives a part of the released radionuclides (common in sprayed containments), and (3) radionuclide decay. The combination of timed release, decay, and multiple compartments was not correctly implemented; instead the initial fuel inventory is decayed each time a source compartment is entered. This error means that the nuclides available for release will be reduced. If the user has two source term compartments the radionuclides available for release at 1 hour is reduced to 58% of what is correct and when there are 3 source term compartments to approximately 34% - this is non-conservative.	More than one compartment does not receive the release.
17	RADTRAD has the capability for removing aerosols due to natural deposition. In the implementation of the Powers model the code assigned a removal coefficient of 0.01 to be used beyond the end of the approximately one day correlation, it should have been 0.0. This allows more particulate to be deposited within the compartment, thus less is available for release to the environment.	The Powers' natural deposition model is not used.
18	1. If the user selects the *user-defined coefficients Natural Deposition Aerosol Model,* no values of deposition lambda or decontamination factor are included in the output file even if the *show results control option* to *include runtime model information* is enabled. Furthermore, in RADTRAD 3.10 only, if the user selects the *Henry natural deposition model* with *runtime model information* requested, the output is mislabeled as "user removal coefficients" instead of "Henry's correlation." 2. According to Section 2.3.2 of the Alion-RADTRAD 3.10 User's Manual (ALION-UGMRADTRAD- 2408-02), "It is not consistent to select both Sprays and Natural Deposition to be active at the same time in the same compartment." However, the RADTRAD software allows users to model both *Sprays*	Natural deposition coefficients are not used in the model. Therefore no impact on results.

RADTRAD Error Notice Number	Error Description	Discussion
	and *Natural Deposition* in the same *compartment* without a warning or error statement. Furthermore, when the user selects both *Sprays* and *Natural Deposition* for a single *compartment* with the *control option* to *show results – include runtime model information* enabled, the values of *deposition lambda* for the *Sprays* model may be erroneously reported as the *deposition lambda* values for *Natural Deposition* in addition to *Sprays*. Also note that the reported *decontamination factors* are for each individual model and may be difficult to interpret. The *decontamination factor* for *Sprays* is the amount of a transport group's radionuclides in the sump pool and containment atmosphere divided by just what is in the containment atmosphere. Similarly, the *decontamination factor* for *Natural Deposition* is the amount of a transport group's radionuclides deposited on surfaces and in the containment atmosphere divided by what is in the containment atmosphere. Since both removal models deplete the containment atmosphere source term, the *decontamination factors* reported will be greater than if only a single model was used. In order to calculate a combined *decontamination factor,* the values for *Sprays* and *Natural Deposition* should be added together and then a value of 1.0 should be subtracted. The user must ensure that undue credit for radionuclide removal is not taken by implementing both *Sprays* and *Natural Deposition.*	

- **MicroShield** (Reference 9.28): A commercially available and accepted code used to determine dose rates at various source-receptor combinations. Several runs were made at various times during the LOCA since the source strength varies over time. MicroShield, Version 10.04 is approved for use in this calculation as documented by Enercon Services, Inc., MicroShield Computer Software Acceptance (Ref. 9.28). Input files for MicroShield, Version 10.04 were run on machine LAP7-533-JH located in the ENERCON office in Kennesaw, Georgia.

6.2 Compliance With Regulatory Requirements

As discussed in Section 4.0, Assumptions, the analysis in this calculation complies with line-by-line requirements in Regulatory Guide 1.183.

7.0 CALCULATIONS

7.1 Dresden Plant Specific Nuclide Inventory File (NIF) For RADTRAD3.03 Input

The RADTRAD nuclide inventory file Bwr_def_NIF establishes the power dependent radionuclide activity in Ci/MW_t for the reactor core source term. Since these core radionuclide activities are dependent on the core thermal power level, reload design, and burnup, Dresden nuclide inventory files DQLOCA_ATRIUM_DEF.nif and DQ39GWD_DEF.nif are compiled based on the fission products in the reactor core obtained from References 9.6 and 9.18 (Framatome and Westinghouse fuel types, respectively). Reference 9.33 contains the source term used to create the nuclide inventory file DQLOCA_GNF3.nif.

7.2 Determination of MSIV Leak Rates

7.2.1 Design Basis Case

The total leakage from all main steam lines is 250 scfh at 43.9 psig, allowing a maximum of 100 scfh at 43.9 psig from any one of the 4 main steam lines. The design basis leakage is converted to LOCA conditions using the Ideal Gas Law at 43.9 psig and 291°F (see Section 4.6.6).

7.2.2 MSIV Leakage During 0-2 hrs

Drywell volume = 1.58E+05 ft^3 (Reference 9.4, Item 19)

Total MSIV leakage measured @ 43.9 psig = 250 scfh (assumed)

Per the ideal gas law, PV= nRT or PV/T = nR. Given that nR is a constant for the air leakage, PV/T at post-LOCA conditions is equal to PV/T at STP conditions.
P @LOCA = Drywell peak pressure = 43.9 psig (Reference 9.10, Table 4-1)
T @LOCA = Drywell peak temperature = 291ºF (Reference 9.10, Table 4-1) = 291°F + 460 = 751°R
P @STP = Standard pressure = 14.7 psia
T @STP = Standard temperature = 68°F = 68°F + 460 = 528°R
V @STP = MSIV leakage based @ 43.9 psig = 250 scfh

V @LOCA = (PV/T @STP) x (T/P @LOCA)
0-2 hrs MSIV leakage @ drywell peak pressure of 43.9 and temperature of 291°F
= 250 scfh x [14.7 psia / (43.9 psig + 14.7 psia)] x [751°R / 528°R]
= 250 scfh x 0.2509 x 1.422 = 89.2 cfh
= (89.2 ft^3/hr) cfh / (60 min/hr) = 1.487 cfm

The 0-2 hrs 250 scfh MSIV leakage is released via the four MSLs. A maximum allowable leak rate of 100 scfh is postulated from MSL 1 with its failed MSIV. The remaining steam lines are assumed to leak at 100, 50, and 0 scfh.

0-2 hrs allowable leakage from MSL 1 with failed MSIV and MSL 2 (at maximum 100 scfh leak rate)
= (100 scfh / 250 scfh total) x 89.2 cfh = 35.68 cfh = 0.595 cfm
0-2 hrs allowable leakage from MS Line 3 (at maximum 50 scfh leak rate)
= (50 scfh / 250 scfh total) x 89.2 cfh = 17.84 cfh = 0.297 cfm

7.2.3 MSIV Leakage During 2-24 hrs

Two hours after a LOCA the drywell and suppression chamber volumes are expected to reach an equilibrium condition and the post-LOCA activity is expected to be homogeneously distributed between these volumes. The homogeneous mixing in the primary containment will decrease the activity concentration and therefore decrease the activity release rate through the MSIVs. To model the effect of this mixing, the MSIV flow rate used in the RADTRAD model is decreased by calculating a new leak rate based on the combined volumes of the drywell and suppression chamber.

Drywell + Suppression Chamber free air volume = 2.69E+05 ft3 (Input 5.3.2.2)

2-24 hrs MSIV leakage @ drywell peak pressure of 43.9 psig = 89.2 cfh (per above)

Corresponding MSIV leak rate = 89.2 cfh x (1.58E+05 ft^3 / 2.69E+05 ft^3) = 52.4 cfh
2-24 hrs allowable leakage from MSL 1 with failed MSIV and MSL 2
= (100 scfh / 250 scfh total) x 52.4 cfh = 20.96 cfh = 0.349 cfm
2-24 hrs allowable leakage from MSL 3
= (50 scfh / 250 scfh total) x 52.4 cfh = 10.48 cfh = 0.175 cfm

7.2.4 MSIV Leakage During 1-30 days

The leakage between 1 to 30 days is taken as half of the leakage between 2-24 hours.

1-30 days allowable leakage from MSL 1 with failed MSIV and MSL 2
= 0.349 cfm / 2 = 0.175 cfm
1-30 days allowable leakage from MSL 3
= 0.175 cfm / 2 = 0.087 cfm

7.2.5 MSIV Leakage To Environment

It is assumed that the post-LOCA activity released in the MSL with the failed inboard MSIV is instantaneously and homogeneously distributed in the single volume of the MSL between the RPV nozzle

and outboard MSIV (well mixed volume). The MSIV leakage from the outboard MSIV expands to the atmospheric condition as follows:

Upstream of outboard MSIV (Section 7.2.2):
V1 = 35.68 cfh P1 = 43.9 psig + 14.7 = 58.6 psia
T1 = (291°F + 460) = 751°R

Downstream of outboard MSIV (Atmospheric Condition):
V2 = TBD P2 = 14.7 psia
T2 = (68°F + 460) = 528°R

MSIV Leakage to Environment From MSIV Failed Line (MSL 1):
V2 = (PV/T @1) x (T/P @2)
= (58.6 psia x 35.68 cfh / 751°R) x (528°R / 14.7 psia)
= 100 cfh = 1.667 cfm

This is as expected, given that the 35.68 cfh leakage rate is equivalent to 100 scfh upstream of the outboard MSIV, and therefore it is equivalent to 100 cfh downstream of the outboard MSIV in the presence of standard pressure and temperature atmospheric conditions.

The steam trapped between the MSIVs in the other three intact lines at the onset of a LOCA will be at 1000 psia and 550°F (Ref. 9.16). The MSLs are insulated with 3-1/2" thick insulation (Ref. 9.16). After the onset of the LOCA and automatic isolation of the MSIVs, the steam line spools between the MSIVs will be at a considerably higher pressure than the steam upstream of the inboard MSIV (ΔP = 1000 psia – 58.6 psia = 941.4 psia) and the atmosphere downstream of the outboard MSIV. This extremely high positive pressure gradient across the MSIVs will prevent the MSIV leakage from migrating through the pipe spool between the MSIVs. To the contrary, the steam content in the pipe spool will leak out until a negative pressure gradient is established across the inboard MSIV due to condensation of the steam in the spool. The time to establish the negative pressure gradient is considerably long. Therefore, to promote the MSIV leakage, it is conservatively assumed that the steam in the spool immediately cools down to atmospheric conditions, thereby establishing a negative pressure gradient across the intact inboard MSIV.

Upstream of inboard MSIV in intact MSL 2 (Section 7.2.2):
V1 = 35.68 cfh P1 = 43.9 psig+ 14.7 = 58.6 psia T1 = (291°F + 460) = 751°R

Downstream of inboard MSIV (assumed Atmospheric Condition):
V2 = TBD P2 = 14.7 psia T2 = (68°F + 460) = 528°R

MSIV Leakage to Pipe Spool Between intact MSL 2 MSIVs:
V2 = (PV/T @1) x (T/P @2)
= (58.6 psia x 35.68 cfh / 751°R) x (528°R / 14.7 psia)
= 100 cfh = 1.667 cfm

Upstream of outboard MSIV (i.e., downstream of inboard MSIV) in intact MSL 2:
V2 = 100 cfh P1 = 14.7 psia T2 = (68°F + 460) = 528°R

Downstream of outboard MSIV in intact MSL 2 (assumed Atmospheric Condition):
V3 = TBD P2 = 14.7 psia T2 = (68°F + 460) = 528°R

MSIV Leakage to Environment From MSL 2:
V3 = (PV/T @2) x (T/P @3)
= (14.7 psia x 50 cfh / 528°R) x (528°R / 14.7 psia)
= 100 cfh = 1.667 cfm

This is as expected, given that the pressure and temperature conditions in the pipe spool between the intact MSL MSIVs are assumed to be the same as the standard pressure and temperature atmospheric conditions present in the environment.

A similar calculation using the same pressure and temperature conditions results in the MSIV Leakage of 50 cfh (0.833 cfm) into the pipe spool between the MSL 3 MSIVs, and from the pipe spool to the Environment.

The 2-24 hr MSIV leakages to Environment

Per Section 7.2.3, two hours after a LOCA the drywell and suppression chamber volumes are expected to reach an equilibrium condition and the post-LOCA activity is expected to be homogeneously distributed between these volumes. Therefore, the leak rates based on the activity in the drywell are not applicable during this period. This results in a reduction in the 0-2 hr MSIV leakages to the environment by the ratio of the drywell volume to the combined drywell plus suppression volume:

2-24 hrs MSIV leakage release to environment from MSL 1 with failed MSIV
= 100 cfh x (1.58E+05 ft^3 / 2.69E+05 ft^3) = 58.73 cfh = 0.979 cfm
2-24 hrs MSIV leakage release to environment from MS Line 2
= 100 cfh x (1.58E+05 ft^3 / 2.69E+05 ft^3) = 58.73 cfh = 0.979 cfm
2-24 hrs MSIV leakage release to environment from MS Line 3
= 50 cfh x (1.58E+05 ft^3 / 2.69E+05 ft^3) = 29.37 cfh = 0.489 cfm

The 1 to 30 day MSIV leakages to Environment

The leakage between 1 to 30 days is taken as half of the leakage between 2-24 hours.

2-24 hrs MSIV leakage release to environment from MSL 1 with failed MSIV
= 0.979 cfm / 2 = 29.37 cfh = 0.489 cfm
2-24 hrs MSIV leakage release to environment from MSL 2
= 0.979 cfm / 2 = 29.37 cfh = 0.489 cfm
2-24 hrs MSIV leakage release to environment from MSL 3
= 0.489 cfm / 2 = 14.68 cfh = 0.245 cfm

7.3 Main Steam Line Volumes & Surface Area For Plateout of Activity

A comparison of the total horizontal lengths between the reactor pressure vessel and the outboard MSIV of the three shortest main steam piping runs of QCNPS, DNPS Unit 2, and DNPS Unit 3 is shown in Table 1C. It can be seen from the comparison that the QCNPS main steam piping runs are shorter, and would therefore result in less (i.e., conservative) aerosol deposition. Therefore, the main steam line lengths, areas, and volumes for plateout of activity calculated for the QCNPS design in Reference 9.20 are applicable to the Dresden design. In the case that the QCNPS is retired earlier than the DNPS, then the conservative use of the shorter main steam lines as shown in Table 1C results in lesser aerosol deposition and higher dose consequences for the MSIV leakage path (Section 2.3.2). The following summarizes these dimensions that are used in Tables 2 and 4.

7.3.1 Piping Line 2-3001A-20” from RPV Nozzle N3A to Outboard Isolation Valve with MSIV failed (100 scfh)

Control Volume V_{11} for MSIV Failed SL Between RPV Nozzle & inboard MSIV (100 scfh)

Total Volume
$\mathbf{V_{11}}$ = 152.96 ft^3

Horizontal pipe volume
$\mathbf{V_{H11}}$ = 40.00 ft^3

Horizontal pipe length for gravitational aerosol deposition
$\mathbf{L_{H11}}$ = 23.42’

Horizontal pipe projected surface area for gravitational aerosol deposition
$\mathbf{A_{H11}}$ = 34.54 ft^2

Control Volume V_{12} for MSIV Failed Line Between Inboard & Outboard MSIVs (100 scfh)

Total volume
$\mathbf{V_{12}}$ **=** 47.28 ft^3

Horizontal pipe volume
$\mathbf{V_{H12}}$ **=** 47.28 ft^3

Horizontal pipe length for gravitational aerosol deposition
L_{H12} = 27.68'

Horizontal pipe projected surface area for gravitational aerosol deposition
A_{H12} = 40.83 ft^2

Control Volumes V_{11} + V_{12} for MSIV Failed SL Between RPV Nozzle & outboard MSIV (100 scfh)

Total Volume
$V_1 = V_{11} + V_{12} =$ 152.96 ft^3 + 47.28 ft^3 = 200.24 ft^3
(Used in RADTRAD Runs DRE3MS395.psf & DRE3MS11.psf and DRE39MS395.psf & DRE39MS11.psf)

Total Horizontal pipe volume
$V_{H1} = V_{H11} + V_{H12} =$ 40.00 ft^3 + 47.28 ft^3 = 87.28 ft^3 (Used in Table 2)

Total Horizontal pipe length for gravitational aerosol deposition
L_{H1} = **$L_{H11} + L_{H12}$** = 23.42' + 27.68' = 51.10'

Total Horizontal Surface Area
$A_{H1} = A_{H11} + A_{H12}$ = 34.54 ft^2 + 40.83 ft^2 = 75.37 ft^2 (Used in Table 2)

7.3.2 First Intact SL 2-3001D-20" from RPV Nozzle N3D to Outboard MSIV (100 scfh)

Control Volume 2 for First Intact SL Between RPV Nozzle & Inboard MSIV (100 scfh)

Total volume
V_2 =152.93 ft^3

Horizontal pipe volume
V_{H2} = 39.97 ft^3

Horizontal pipe length for gravitational aerosol deposition
L_{H2} = 23.40'

Horizontal pipe projected surface area for gravitational aerosol deposition
A_{H2} = 34.52 ft^2

Control Volume 3 for First Intact SL Between Inboard & Outboard MSIVs (100 scfh)

Total volume for first intact pipe between Inboard & Outboard MSIVs

V_3 = 49.11 ft^3
Horizontal pipe volume
V_{H3} = 49.11 ft^3

Horizontal pipe length for gravitational aerosol deposition
L_{H3} = 28.75'

Horizontal pipe projected surface area for gravitational aerosol deposition
A_{H3} = 42.41 ft^2

7.3.3 Second Intact SL 2-3001C-20" from RPV Nozzle N3C to Outboard MSIV (50 scfh)

Control Volume 4 for Second Intact SL Between RPV Nozzle & Inboard MSIV (50 scfh)

Total volume
V_4 = 163.75 ft^3

Horizontal pipe volume
V_{H4} = 49.01 ft^3

Horizontal pipe length for gravitational aerosol deposition
L_{H4} = 28.70'

Horizontal pipe projected surface area for gravitational aerosol deposition
A_{H4} = 42.33 ft^2

Control Volume 5 for First Intact SL Between Inboard & Outboard MSIVs (50 scfh)

Total volume for first intact pipe between Inboard & Outboard MSIVs
V_5 = 49.11 ft^3

Horizontal pipe volume
V_{H5} = 49.11 ft^3

Horizontal pipe length for gravitational aerosol deposition
L_{H5} = 28.75'

Horizontal pipe projected surface area for gravitational aerosol deposition
A_{H5} = 42.41 ft^2

7.4. Aerosol Deposition On Horizontal Pipe Surface

The DNPS main steam piping from the reactor pressure vessel (RPV) nozzle to the outboard MSIV is ASME Class 1 seismically analyzed to assure the piping wall integrity during and after a seismic (safe shutdown earthquake [SSE]) event. RG 1.183, Appendix A, Section 6.5 requires that the components and piping systems used in the release path are capable of performing their safety function during and following a SSE. The main steam lines credited in the MSIV leakage path are qualified to withstand the SSE, therefore, these lines are credited for the aerosol deposition in the following section:

The Brockmann model for aerosol deposition (Reference 9.2, Section 2.2.6.1) is based on the plug flow model. The staff concluded that the plug flow model for aerosol deposition in the main steam piping under-predicts the dose (Ref 9.5, Appendix A). The aerosol settling velocity in the well-mixed flow model depends on the variables having a large range of uncertainty (see Equation 5 of Appendix A of Reference 9.5). Therefore, the following aerosol deposition model is used, which is accepted by the Staff in Reference 9.5, Appendix A). Therefore, the Staff performed a Monte Carlo analysis to determine the distribution of aerosol settling velocities for the main steam line during the in-vessel release phase. The accepted 40 percentile settling velocity is reasonably conservative for aerosol deposition in the MSIV leakage. The results of the Monte Carlo analysis for settling velocity in the main steam line are given in the following Table:

Percentile	Settling Velocity (m/sec)	Removal Rate Constant (hr^{-1})
60th (average)	0.00148	11.43
50th (median)	0.00117	9.04
40th	0.00081	6.26
10th	0.00021	1.62

7.4.1 MSIV Failed Line

The derivation of staff's well-mixed model begins with a mass balance as follows (Reference 9.5, Page A-2):

$$V * \frac{dC}{dt} = Q * C_{in} - Q * C - \lambda_s * V * C \qquad (1)$$

Where V = volume of well-mixed region
C = concentration of nuclides in volume
Q = volumetric flow rate into volume
λ_s = rate constant for settling
And

$$\lambda_s = \frac{u_s * A}{V}$$

Where u_s = settling velocity
A = settling area

The aerosol settling velocities in the different control volumes are calculated in Table 2 using the above equation based on the horizontal pipe projected areas and well mixed horizontal volumes obtained from Section 7.3. The total surface area available for aerosol deposition/plateout is 237 ft^2.

Under steady-state condition, the derivative in the above equation (1) becomes zero. Equation (1) can be simplified as follows:

$$C \equiv C_{in} * \frac{1}{1 + \frac{\lambda_s * V}{Q}}$$

RADTRAD allows input of filter efficiency for each flow path. Noting that C is also the concentration of nuclides leaving the volume, the above equation can be used to determine an equivalent filter efficiency as follows:

$$\eta_{filt} = 1 - \frac{C}{C_{in}} = 1 - \frac{1}{1 + \frac{\lambda_s * V}{Q}} \qquad (2)$$

Equation (2) is used to calculate the aerosol removal efficiencies in Table 4. Note that the volumetric flow rate used to determine the removal efficiency is the full flow rate through the line (100 or 50 scfh).

7.5 ESF Leak Rates

The design basis ESF leakage is 1 gpm, which is doubled and converted into cfm as follows:

1 gallon/min × 2 × 1/7.4805 ft^3/gallon = 0.2674 cfm

10% of ESF leakage becomes airborne = 0.10 × 0.2674 = 0.02674 cfm

7.6 External Cloud Gamma Dose Attenuation Factor

The gamma attenuation for concrete shielding for an external cloud dose is conservatively calculated for an average gamma energy of 1.0 Mev.

The gamma radiation external radioactive plume shine to the CR personnel is attenuated by the 1'-6" minimum concrete wall shielding (Reference 9.22.c). Gamma dose attenuation for 1'-6" concrete shielding is calculated as follows:
Mass attenuation coefficient for concrete at 1 Mev μ/ρ = 0.0635 cm^2/g (Reference 9.14, Table 3.7)
Density of concrete ρ = 2.3 g/cm^3 (Reference 9.14, Table II.3)
Linear attenuation coefficient μ in concrete = μ/ρ x ρ = 0.0635 cm^2/g x 2.3 g/cm^3 = 0.146 cm^{-1}
Shielding thickness r = 18 inch x 2.54 cm/inch = 45.72 cm
μr in concrete shielding = 0.146 cm^{-1} x 45.72 cm = 6.675 mean free paths
Exposure buildup factor for isotropic point source at disintegration energy of 1 Mev and 6.675 mean free paths of the 1 Mev gammas

$B_p(\mu r) = A_1 e^{-\alpha_1 \mu r} + A_2 e^{-\alpha_2 \mu r}$ (Reference 9.14, page 428)

Where A_1, A_2, α_1, and α_2 are functions of energy, and
$A_1 + A_2 = 1$

Values of these parameters are obtained from Table 10.3 of Reference 9.14 for 1 Mev gamma in concrete shielding as follows:
A_1 = 25.507 $-\alpha_1$ = 0.07230 α_2 = -0.01843 $A_2 = 1 - A_1 = 1 - 25.507 = -24.507$ μr = 6.675

Substituting these values in the above equation yields:

$B_p(\mu r)$ = 41.32 – 27.71 = 13.61

Direct Shield Attenuation $I/I_0 = B_p(\mu r)\ e^{-\mu r}$
Where
I = shielded gamma dose rate
I_0 = unshielded gamma dose rate
$B_p(\mu r)$ = Exposure buildup factor

Substituting the values of parameters into the above attenuation yields a direct shield attenuation factor of

$I/I_0 = B_p(\mu r)\ e^{-\mu r} = 13.61\ e^{-(6.675)} = 13.61 \times 1.262E\text{-}03 = 0.0172$

7.7 Containment Shine Shielding Geometry

Reactor Building Shielding Parameters: (Reference 9.21)

Length = 147'-0" Width = 117'-6"

Height = 659-6" – 613'-0" – 2'-0" (for roof thickness) = 44'-6" ≈ 44'-0" used in the analysis to adjust the roof thickness dimension

Volume of Source = 147' x 117.5' x 44' = 759,990 ft^3 (= 2.15E+10 cm^3) used in the analysis

Distance between north-east corner of RB and normally occupied CR area = Distance between Columns 32 through & 38

= 20'-7" + 20'-7" + 20'-7" + 25'-0" + 22'-9" + 21'-6-1/2" = 131'-0-1/2" (Reference 9.21.a)

Elevation difference between CR operator and RB operating floor

= 613'-0" RB operating floor elevation – [(534'-0") CR floor elevation + 7'-0" height of operator (assumed)]

= 613' – 541'-0' = 72'
Line of sight distance between CR operator location and centerline of RB source

$= [(72')^2 + (131.04')^2]^{1/2} = 150'$

To this line of sight distance 1'-0" is added representing the air separation between Column 32 and the CR operator, and 2'-6" is subtracted representing concrete shielding (per Section 2.4.3). The result is an effective line of sight air attenuation distance of 148'-6" (see Figures 4 & 5).

Gamma dose rate reduction factor based on RB volume = 759,990 ft^3 / 2.25E+06 ft^3 = 0.3378

7.8 CR Containment Shine Dose

720-hr CR gamma dose from RB shine, with consideration of control room occupancy factors is reduced by a gamma dose rate reduction factor based on RB volume = 759,990 ft^3 / 2.25E+06 ft^3 = 0.3378 (Section 7.7).

The total CR dose from RB shine is added to other post-LOCA dose contributions in Section 8.1.

7.9 SBGTS Vent and CR Charcoal Filters Efficiencies

HEPA Filter:

In-place penetration testing acceptance criteria for the safety related HEPA filters are as follows:

SBGTS Vent HEPA Filter – in-place testing penetration < 1.0% (Reference 9.17.1, Section 5.5.7.a)
CREV Intake HEPA Filter – in-place testing penetration < 0.05% (Reference 9.17.1, Section 5.5.7.a)

GL 99-02 (Reference 9.13) requires a safety factor of at least 2 should be used to determine the filter efficiencies to be credited in the design basis accident.

Testing penetration (%) = (100% - η)/safety factor = (100% - η)/2
Where η = SBGTS Vent HEPA filter efficiency to be credited in the analysis
1.0% = (100% - η)/2
2.0% = (100% - η)
η = 100% - 2.0% = 98%

Testing penetration (%) = (100% - η)/safety factor = (100% - η)/2
Where η = CREV HEPA filter efficiency to be credited in the analysis
0.05% = (100% - η)/2
0.1% = (100% - η)
η = 100% - 0.1% = 99.9%
Conservatively, the CREV HEPA filter efficiency of 99% is credited in the analysis

Charcoal Filter:

Laboratory penetration testing acceptance criteria for the safety related Charcoal filters are as follows:

SBGTS Vent Charcoal Filter – in- laboratory testing methyl iodide penetration < 2.5% (Reference 9.17.1, Section 5.5.7.c)
CREV Charcoal Filter – in- laboratory testing methyl iodide penetration < 0.5% (Reference 9.17.1, Section 5.5.7.c)

GL 99-02 (Reference 9.13) requires a safety factor of at least 2 should be used to determine the filter efficiencies to be credited in the design basis accident.

Testing methyl iodide penetration (%) = (100% - η)/safety factor = (100% - η)/2
Where η = SBGTS Vent charcoal filter efficiency to be credited in the analysis
SBGTS Vent Charcoal Filter
2.5% = (100% - η)/2
5% = (100% - η)
η = 100% - 5% = 95%
Conservatively, the SBGTS Vent charcoal filter efficiency of 90% is credited in the analysis

Testing methyl iodide penetration (%) = (100% - η)/safety factor = (100% - η)/2
Where η = CREV charcoal filter efficiency to be credited in the analysis
CREV Charcoal Filter
0.5% = (100% - η)/2
1% = (100% - η)
η = 100% - 1% = 99%

Safety Grade Filter	Filter Efficiency Credited (%)		
	Aerosol	Elemental	Organic
SBGTS Vent	98	90	90
CREV	99	99	99

7.10 Post-LOCA CREV Filter Shine Dose

The post-LOCA CREV filter shine dose was calculated in Revision 4 of this analysis for Framatome fuel and Westinghouse fuel and as described below was shown to be a negligible contributor to dose. This conclusion remains valid for Revision 5 of this calculation because even if the activity is doubled, the amount of iodine on the filters remains negligible. This conclusion is also valid for GNF3 fuel because as shown in Section 8.1, the doses associated with GNF3 fuel are less than double the Framatome and Westinghouse fuel doses. The discussion below (Sections 7.10.1 and 7.10.2) is retained as historical information.

7.10.1 Iodine Deposition on CREV Charcoal Filter – MSIV Leakage

Tables 9 and 11 (Framatome fuel) and Tables 25 and 27 (Westinghouse fuel) document the elemental iodine atoms and organic iodide atoms released to the environment from the three main steam lines modeled with MSIV leakage for time intervals of 0.6667 to 2 hours, 2 to 8 hours, 8 to 24 hours, 24 to 96 hours, and 96 to 720 hours as determined in RADTRAD files DRE3MS395.o0 and DRE39MS395.o0 for Framatome and Westinghouse fuel types, respectively. These time intervals coincide with the varying

atmospheric dispersion factor defining MSIV leakage releases to the CREV system intake louvers. There is no filter activity loading prior to the initiation of the CREV system at 40 minutes.

For each time interval, Tables 10 and 12 (Framatome fuel) and Tables 26 and 28 (Westinghouse fuel) multiply the iodine atoms released to the environment, with the atmospheric dispersion factor, the CREV filtered intake flow, and the charcoal filter efficiency. The result is the total number of elemental and organic iodine atoms drawn into, and retained on, the CREV charcoal filter.

The combined total of elemental and organic iodine atoms retained on the CREV charcoal filter are:

= 2.027E+15 elemental iodine atoms (Table 10) + 1.257E+16 organic iodide atoms (Table 12)
= 1.4597E+16 elemental + organic iodine atoms (Framatome fuel).
= 2.051E+15 elemental iodine atoms (Table 26) + 1.274E+16 organic iodide atoms (Table 28)
= 1.4791E+16 elemental + organic iodine atoms (Westinghouse fuel).

The iodine atom/curie relationship is established using the containment leakage run DRE3CL395.o0 and DRE39CL395.o0 files as shown in Tables 15 and 31 for Framatome and Westinghouse fuel types, respectively, which is a typical relationship for all release paths.

The total (elemental + organic) iodine activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Tables 16 and 32 (Framatome and Westinghouse fuel types, respectively) using this iodine atom/curie relationship and the combined total of elemental and organic iodine atoms retained on the CREV charcoal filter. A review of Tables 16 and 32 documents that the accumulation of un-decayed iodine activity on the CREV charcoal filter is 2.34 curies for the Framatome fuel and 2.35 curies for the Westinghouse fuel, which are insignificant. This is as expected, because most of the elemental iodine is removed by elemental deposition in the main steam piping before it is released to the environment and it is further reduced by air dilution before it migrates to the CR air intake. The natural radioactive process will further decay the iodine on the CREV charcoal bed.

7.10.2 Aerosol Mass Deposited On CREV HEPA Filter – MSIV Leakage:

Table 13 (Framatome fuel) and Table 29 (Westinghouse fuel) document the aerosol mass released to the environment from the three main steam lines modeled with MSIV leakage for time intervals of 0.6667 to 2 hours, 2 to 8 hours, 8 to 24 hours, 24 to 96 hours, and 96 to 720 hours as determined in RADTRAD files DRE3MS395.o0 and DRE39MS395.o0 for the Framatome and Westinghouse fuel types, respectively. These time intervals coincide with the varying atmospheric dispersion factor defining MSIV leakage releases to the CREV system intake louvers. There is no filter activity loading prior to the initiation of the CREVS at 40 minutes.

For each time interval, Table 14 (Framatome fuel) and Table 30 (Westinghouse fuel) multiply the aerosol mass released to the environment, with the atmospheric dispersion factor, the CREV filtered intake flow, and the HEPA filter efficiency. The result is the total aerosol mass drawn into, and retained on, the CREV HEPA filter is 9.796E-07 kg (Table 14, Framatome fuel) and 9.474E-07 kg (Table 30, Westinghouse fuel).

The aerosol mass/curie relationship is established using the containment leakage run DRE3CL395.o0 and DRE39CL395.o0 files as shown in Tables 17 and 33 (Framatome and Westinghouse fuel types, respectively), which is a typical relationship for all release paths.

The total aerosol activity deposited on the CREV HEPA filter due to the MSIV leakage is calculated in Tables 18 and 34 (Framatome and Westinghouse fuel types, respectively) using this aerosol mass/curie relationship and the total aerosol mass retained on the CREV charcoal filter. A review of Tables 18 and 34 document that the accumulation of aerosol activity on the CREV HEPA filter is 0.2563 curies for the Framatome fuel and 0.2729 curies for the Westinghouse fuel, which are insignificant. This is as expected, because most of aerosol deposit out in the main steam piping horizontal surface before being released to the environment (see Table 4 for the aerosol removal efficacies due to gravitational deposition).

7.11 Spray Calculations

The first order removal coefficient for particulate aerosols can be determined by using the equations in Section 2.1.3.

Per SRP 6.5.2 (Section III.4.D, page 6.5.2-12), since the removal of particulate aerosol material chiefly depends on the relative sizes of the particles and the spray drops, it is convenient to combine parameters that cannot be known. It is conservative to assume E/D to be 10 per meter initially (i.e., 1% efficiency for spray drops of 1 millimeter in diameter), changing abruptly to 1 spray drop per meter after the particulate aerosol mass has been depleted by a factor of 50 (i.e., 98% of the suspended mass is 10 times more readily removed than the remaining 2%).

Per SRP 6.5.2 (Section III.3.d, page 6.5.2-12), because the removal mechanisms for particulate iodines are significantly different from and slower than the mechanisms for elemental iodine, there is no need to limit the DF for particulate iodines. The full spray removal coefficient is used until a DF ≤ 50 for particulate iodines is reached and is calculated as follows:

F = volume flow rate of the spray pump = 2,352 gal/min (Ref. 9.37)
F = 2,352 gal/min × 0.13368 ft^3/gal × 0.028317 m^3/ft^3 × 60 min/hr = 534.20 m^3/hr

V = Drywell net free volume = 1.58E+05 ft^3 (Design Input 4.1)

V = 1.58E+05 ft^3 × 0.028317 m^3/ft^3 = 4.474E+03 m^3
Elevation of Upper DW Spray Header = 551'- 2"
Elevation of Lower DW Spray Header = 529'- 9"
Elevation of Bottom of Drywell Floor = 502'- 4"
Minimum Height of DW Spray h = 529'- 9" - 502'- 4" = 27'-5" × 0.3048 m/ft = 8.36 m

Solving, the particulate aerosol spray removal coefficient equation:

DW Spray Flow of 2,352 gpm
For DF ≤ 50:
λ_S, Partic = (3 × 8.36 m × 534.20 m^3/hr) × (10 m^{-1}) / (2 × 4.474E+03 m^3)
λ_S, Partic = 15.0 hr^{-1}
For DF > 50:
λ_S, Partic = (3 × 8.36 m × 534.20 m^3/hr) × (1 m^{-1}) / (2 × 4.474E+03 m^3)
λ_S, Partic = 1.5 hr^{-1}

The above calculation uses the net containment volume to calculate the removal coefficient. This is conservative because a larger volume in the denominator of the above equations lead to a lower removal coefficient. However, the model is set up to differentiate between the sprayed and unsprayed volumes in containment. Per RG 1.183, "The evaluation of the containment sprays should address areas within the primary containment that are not covered by the spray drops. The mixing rate attributed to natural convection between sprayed and unsprayed regions of the containment building, provided that adequate flow exists between these regions, is assumed to be two turnovers of the unsprayed regions per hour, unless other rates are justified."

Therefore, a sprayed and unsprayed volume of the containment needs to be calculated along with a flow rate between the two volumes. Based on a review of DRE14-0003 (Reference 9.36), the sprayed volume is calculated based on the volume under the upper spray header excluding the vent line volume. This volume corresponds to subvolumes 4, 5, 6, 7, and 8A and is calculated to be 21,131 ft^3 + 29,278 ft^3 + 25,045 ft^3 + 7,769 ft^3 + 23,657 ft^3 = 1.07E+05 ft^3. However, the sprayed volume used in the RADTRAD model is 9.50E+04 ft^3 to be consistent with the Quad Cities model in Reference 9.20 because a smaller sprayed volume concentrates the activity in the drywell. In the RADTRAD model, the unsprayed volume is used to dilute the sprayed volume with a flow rate of 2.10E+03 cfm consistent with Reference 9.20.

8.0 RESULTS SUMMARY & CONCLUSIONS

8.1 Results Summary

Tables 8-1 through 8-3 provide the Unit 2 dose results based on 250 scfh of MSIV leakage for the Framatome, Westinghouse, and GNF3 fuel, respectively. Appendix A contains the Unit 3 results based on 350 scfh of MSIV leakage. The overall bounding fuel type with respect to dose is GNF3. The bounding GNF3 doses are provided in Table 8-4. These doses are based on the highest control room, EAB, and LPZ doses for both Unit 2 and Unit 3.

Table 8-1 LOCA doses using Framatome ATRIUM 10XM fuel and 250 scfh leakage for Unit 2

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	1.93E-01	7.01E-02	2.64E-01
ESF Leakage	8.74E-03	5.68E-03	4.06E-02
MSIV Leakage	3.51E+00	1.58E+00	4.45E-01
Reactor Building Shine	1.38E-01	0.00E+00	0.00E+00
External Cloud Shine	4.33E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**4.28E+00**	**1.66E+00**	**7.49E-01**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_Fram		
ESF Leakage	DRE3ES395_Fram		
MSIV Leakage	DRE3MS395_Fram and DRE3MS11_Fram		

Table 8-2 LOCA doses using Westinghouse SVEA-96 Optima2 fuel and 250 scfh leakage for Unit 2

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	2.00E-01	7.29E-02	2.83E-01
ESF Leakage	8.84E-03	5.75E-03	4.11E-02
MSIV Leakage	3.67E+00	1.69E+00	4.75E-01
Reactor Building Shine	1.46E-01	0.00E+00	0.00E+00
External Cloud Shine	4.67E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**4.49E+00**	**1.77E+00**	**7.99E-01**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_West		
ESF Leakage	DRE3ES395_West		
MSIV Leakage	DRE3MS395_West and DRE3MS11_West		

Table 8-3 LOCA doses using GNF3 fuel and 250 scfh leakage for Unit 2

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	2.06E-01	8.26E-02	3.23E-01
ESF Leakage	8.94E-03	5.81E-03	4.15E-02
MSIV Leakage	3.91E+00	1.98E+00	5.40E-01
Reactor Building Shine	1.77E-01	0.00E+00	0.00E+00
External Cloud Shine	5.50E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**4.86E+00**	**2.07E+00**	**9.05E-01**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_GNF3		
ESF Leakage	DRE3ES395_GNF3		
MSIV Leakage	DRE3MS395_GNF3 and DRE3MS11_GNF3		

Table 8-4 Bounding LOCA doses using GNF3 fuel with 250 scfh leakage for Unit 2 and 350 scfh leakage for Unit 3

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	2.06E-01	8.26E-02	3.23E-01
ESF Leakage	8.94E-03	5.81E-03	4.15E-02
MSIV Leakage	3.91E+00	3.57E+00*	8.79E-01*
Reactor Building Shine	1.77E-01	0.00E+00	0.00E+00
External Cloud Shine	5.50E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**4.86E+00**	**3.66E+00**	**1.24E+00**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_GNF3		
ESF Leakage	DRE3ES395_GNF3		
MSIV Leakage	DRE3MS395_GNF3 and DRE3MS11_GNF3 (for Control Room doses) DRE3MS395_GNF3_350 (for EAB and LPZ doses)*		

*Doses taken from Appendix A

8.2 Conclusions

The Section 8.1 results of this analysis, using conservative as-built design inputs and assumptions that reflect AST implementation indicate that the EAB, LPZ, and CR doses are within their allowable TEDE limits for the fuel that may reside in the Dresden reactor cores.

9.0 REFERENCES

9.1 U.S. NRC Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000.

9.2 S.L. Humphreys, et al., NUREG/CR-6604 (including Supplements 1 and 2), "RADTRAD: A Simplified Model for Radionuclide Transport and Removal and Dose Estimation," (originally published December 1997; Supplement 1 dated June 8, 1999, and Supplement 2 dated October 2002).

9.3 10CFR50.67, “Accident Source Term.”

9.4 Exelon Transmittal of Design Information No. ER2002-9994, Rev 1, “Dresden Station Concurrence with the Design Inputs as established for Alternate Source Term (AST) LOCA Analysis,” Revision 1, July 31, 2002.

9.5 AEB 98-03, Assessment of Radiological Consequences for the Perry Pilot Plant Application Using The Revised (NUREG-1465) Source Term.

9.6 Transmittal of Design Information (TODI) No. ENSAF ID# ES1600017, Rev 0, “Dresden Core Isotopic Inventory Based on AREVA ATRIUM 10XM Fuel.”

9.7 EPA-520/1-88-020, Federal Guidance Report 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion and Ingestion.”

9.8 EPA-402-R-93-081, Federal Guidance Report 12, “External Exposure to Radionuclides in Air, Water and Soil.”

9.9 NUREG-0800, Standard Review Plan, “Containment Spray as a Fission Product Cleanup System,” SRP 6.5.2, Revision 2, 1988.

9.10 GE-NE-A22-00103-08-01, Revision 1, Class 3, December 2000, Project Task Report T0400, Containment System Response

9.11 Exelon Calculation No. DRE04-0030, Rev 2, Atmospheric Dispersion Factors (χ/Qs) for Accident Release.

9.12 Exelon Calculation No. DRE02-0033, Rev 2, Ultimate Suppression Pool pH Following a Loss of Coolant Accident.

9.13 USNRC, "Laboratory Testing of Nuclear-Grade Activated Charcoal," NRC Generic Letter 99-02, June 3, 1999

9.14 Introduction To Nuclear Engineering By John Lamarsh, Third Printing, December 1977, Addison-Wesley Publishing Company.

9.15 Dresden Unit 2 Field Isometric Drawings:

a. Unit 2 Field ISO No. 30-1, SHT 1, Rev 4, # 30 Main Steam
b. Unit 2 Field ISO No. 30-3, SHT 1, Rev 5, # 30 Main Steam
c. Unit 2 Field ISO No. 30-4, SHT 1, Rev 5, # 30 Main Steam
d. Unit 2 Field ISO No. 30-6, SHT 2, Rev 3, # 30 Main Steam
e. Unit 2 Field ISO No. 30-7, SHT 1, Rev 3, # 30 Main Steam
f. Unit 2 Field ISO No. 30-8, SHT 2, Rev 3, # 30 Main Steam

9.16 Dresden Unit 3 Field Isometric Drawings:

a. Unit 3 Field ISO No. 30-300, SHT 1, Rev 2, # 30 Main Steam
b. Unit 3 Field ISO No. 30-304, SHT 1, Rev 3, # 30 Main Steam
c. Unit 3 Field ISO No. 30-302, SHT 2, Rev 3, # 30 Main Steam
d. Unit 3 Field ISO No. 30-306, SHT 1, Rev 3, # 30 Main Steam
e. Unit 3 Field ISO No. 30-303, SHT 1, Rev 2, # 30 Main Steam
f. Unit 3 Field ISO No. 30-307, SHT 1, Rev 3, # 30 Main Steam

9.17 Dresden Technical Specification Nos:

9.17.1 Specification 5.5.7, Amendment No. 185/180, “Ventilation Filter Testing Program (VFTP)”

9.17.2 Specification 5.5.12, Amendment No. 257/250, “Primary Containment Leakage Rate Testing Program”

9.18 NF-BEX-13-65, Rev. 0, “Core Inventory Results for Quad Cities 1&2 and Dresden 2&3,” May 2013.

9.19 LAT w/o 3506, Control Room Envelope Inleakage Testing at Dresden Generating Station, March 30, 2015

9.20 Quad Cities Calculation No. QDC-0000-N-1481, Rev. 3, Post-LOCA EAB, LPZ, & CR Doses Using Alternative Source Term

9.21 DPS General Arrangement Drawings:
a. M-3, Rev Z, Mezzanine Floor Plan
b. M-4, Rev AJ, Ground Floor Plan
c. M-7, Rev D, Sections A-A & B-B
d. M-8, Rev C, Sections C-C & D-D
e. M-9, Rev I, Sections E-E & F-F

9.22 DPS Control Room Structure Drawings:
a. B-351, Rev H, Turbine Building Mezzanine Floor Plan, Control Room North Area
b. B-352, Rev E, Turbine Building Mezzanine Floor Plan, Control Room South Area
c. B-144, Rev AO, Turbine Building Framing Plan Elevation 534’-0” Control Room Area

9.23 DPS HVAC Drawings:
a. M-3123, Rev 2, General Arrangement Plan At EL. 534’-0”, Control Room HVAC Upgrade
b. M-3124, Rev E, Control Room HVAC Equipment Rooms, Plans & Sections, EL. 534’-0” & EL. 549’-0”
c. M-3128, Rev 9, Piping Arrangement Control Room HVAC Area EL. 534’-0” & EL. 549’-0”

9.24 American Air Filter Drawing No. R107D-1319884-C, Housing Assembly, Control Room Filter (Dresden Generating Station)

9.25 Standard Review Plan Section 15.0.1, Rev. 0, “Radiological Consequence Analyses Using Alternative Source Terms,” July 2000

9.26 Exelon DTSQA Number EX0009077, RADTRAD V3.03

9.27 ENERCON RADTRAD, Version 3.03, Computer Software Acceptance Package for Project EXL-009, Revision 0.

9.28 ENERCON MicroShield, Version 10.04, Computer Software Acceptance Package for Project EXL-009, Revision 0.

9.29 Dresden Station Procedure DOS 5750-14, Rev. 2 (to be issued), “Control Room Envelope Unfiltered In-leakage Tracer Gas Test,” procedure update tracked per AT# 04166032-09.

9.30 Not used

9.31 J.E. Cline, MSIV Leakage Iodine Transport Analysis, Letter Report dated March 26, 1991. (ADAMS Accession Number ML003683718).

9.32 Crane Technical Paper Number 410, Flow of Fluids Through Valves, Fittings, and Pipe, 2001

9.33 Exelon Calculation No. DRE19-0020, Rev 0, Design Basis Core Inventories for Dresden GNF3 Equilibrium Core

9.34 DEOP 0200-01, Revision 13, Primary Containment Control

9.35 DOP 1500-03, Revision 36, Containment Spray Cooling Mode of Low Pressure Coolant Injection System

9.36 DRE14-0003, Revision 000, Drywell Free Volume

9.37 NDIT S040-DH-00636, Revision 1, EOP Calculation Input Data

9.38 M-12, Sheet 1, Rev. PH, Diagram of Main Steam Piping

9.39 M-12, Sheet 2, Rev. ABT, Diagram of Main Steam Piping

9.40 M-345, Sheet 1, Rev. BC, Diagram of Main Steam Piping

9.41 M-345, Sheet 2, Rev. QN, Diagram of Main Steam Piping

9.42 M-29, Sheet 1, Rev. CQ, Diagram of L.P. Coolant Injection Piping

9.43 M-29, Sheet 2, Rev. BI, Diagram of L.P. Coolant Injection Piping

9.44 TSG-2, Rev. 05, RPV & Containment DEOP/SAMG Action Level Assessment

9.45 DRE19-0015, Rev. 0, Dresden Units 2 & 3 Secondary Containment Drawdown Analysis

9.46 TODI DRE 19-009, Rev. 0, MSIV Leakage Rate Optimization – Input data request for POST-LOCA EAB, LPZ AND CR DOSE calc

9.47 Dresden UFSAR

9.48 Dresden Technical Requirements Manual Section 3.6.a, Revision 0, Drywell Spray

9.49 DTP 47, Rev. 21, Leak Rate Testing Program

10.0 TABLES

This section includes tables relevant to the Framatome, Westinghouse, and GNF3 core inventory data.

Table 1
Dresden Framatome Core Inventory

Isotope	Core Inventory 39 GWD/MTU (Ci) A	Isotope	Core Inventory 39 GWD/MTU (Ci) A
KR-85	1.37E+06	TE-132	1.15E+08
KR-85M	2.04E+07	I-131	8.04E+07
KR-87	4.09E+07	I-132	1.17E+08
KR-88	5.68E+07	I-133	1.66E+08
RB-86	1.54E+05	I-134	1.84E+08
SR-89	7.82E+07	I-135	1.58E+08
SR-90	1.23E+07	XE-133	1.59E+08
SR-91	9.92E+07	XE-135	5.39E+07
SR-92	1.05E+08	CS-134	2.03E+07
Y-90	1.27E+07	CS-136	5.54E+06
Y-91	1.01E+08	CS-137	1.61E+07
Y-92	1.06E+08	BA-139	1.46E+08
Y-93	8.04E+07	BA-140	1.47E+08
ZR-95	1.44E+08	LA-140	1.57E+08
ZR-97	1.40E+08	LA-141	1.34E+08
NB-95	1.44E+08	LA-142	1.31E+08
MO-99	1.51E+08	CE-141	1.35E+08
TC-99M	1.34E+08	CE-143	1.26E+08
RU-103	1.300E+08	CE-144	1.16E+08
RU-105	9.120E+07	PR-143	1.22E+08
RU-106	5.670E+07	ND-147	5.43E+07
RH-105	8.54E+07	NP-239	1.59E+09
SB-127	7.17E+06	PU-238	4.16E+05
SB-129	2.61E+07	PU-239	3.93E+04
TE-127	7.12E+06	PU-240	7.20E+04
TE-127M	1.22E+06	PU-241	1.59E+07
TE-129	2.48E+07	AM-241	2.61E+04
TE-129M	5.02E+06	CM-242	6.64E+06
TE-131M	1.63E+07	CM-244	3.86E+05

A From Reference 9.6

Table 1A
Dresden Framatome Core Inventory – RADTRAD Nuclide Inventory File

Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14
CO-58*		.1529E+03	RU-103	1.30E+08	4.3101E+04	CS-136	5.54E+06	1.8368E+03
CO-60*		.1830E+03	RU-105	9.12E+07	3.0237E+04	CS-137	1.61E+07	5.3379E+03
KR-85	1.37E+06	4.5422E+02	RU-106	5.67E+07	1.8799E+04	BA-139	1.46E+08	4.8406E+04
KR-85M	2.04E+07	6.7636E+03	RH-105	8.54E+07	2.8314E+04	BA-140	1.47E+08	4.8738E+04
KR-87	4.09E+07	1.3560E+04	SB-127	7.17E+06	2.3772E+03	LA-140	1.57E+08	5.2053E+04
KR-88	5.68E+07	1.8832E+04	SB-129	2.61E+07	8.6534E+03	LA-141	1.34E+08	4.4428E+04
RB-86	1.54E+05	5.1059E+01	TE-127	7.12E+06	2.3606E+03	LA-142	1.31E+08	4.3433E+04
SR-89	7.82E+07	2.5927E+04	TE-127M	1.22E+06	4.0449E+02	CE-141	1.35E+08	4.4759E+04
SR-90	1.23E+07	4.0781E+03	TE-129	2.48E+07	8.2224E+03	CE-143	1.26E+08	4.1775E+04
SR-91	9.92E+07	3.2890E+04	TE-129M	5.02E+06	1.6644E+03	CE-144	1.16E+08	3.8460E+04
SR-92	1.05E+08	3.4813E+04	TE-131M	1.63E+07	5.4043E+03	PR-143	1.22E+08	4.0449E+04
Y-90	1.27E+07	4.2107E+03	TE-132	1.15E+08	3.8128E+04	ND-147	5.43E+07	1.8003E+04
Y-91	1.01E+08	3.3487E+04	I-131	8.04E+07	2.6657E+04	NP-239	1.59E+09	5.2716E+05
Y-92	1.06E+08	3.5144E+04	I-132	1.17E+08	3.8791E+04	PU-238	4.16E+05	1.3792E+02
Y-93	8.04E+07	2.6657E+04	I-133	1.66E+08	5.5037E+04	PU-239	3.93E+04	1.3030E+01
ZR-95	1.44E+08	4.7743E+04	I-134	1.84E+08	6.1005E+04	PU-240	7.20E+04	2.3872E+01
ZR-97	1.40E+08	4.6417E+04	I-135	1.58E+08	5.2385E+04	PU-241	1.59E+07	5.2716E+03
NB-95	1.44E+08	4.7743E+04	XE-133	1.59E+08	5.2716E+04	AM-241	2.61E+04	8.6534E+00
MO-99	1.51E+08	5.0064E+04	XE-135	5.39E+07	1.7871E+04	CM-242	6.64E+06	2.2015E+03
TC-99M	1.34E+08	4.4428E+04	CS-134	2.03E+07	6.7305E+03	CM-244	3.86E+05	1.2798E+02

* CO-58 & CO-60 activities are obtained from RADTRAD User's Manual, Table 1.4.3.2-3 (Reference 9.2)
A From Table 1

Table 1B
Dresden GNF3 Core Inventory – RADTRAD Nuclide Inventory File

Isotope	Ci/MWt	Isotope	Ci/MWt	Isotope	Ci/MWt
CO-58*	.1529E+03	RU-103	4.5360E+04	CS-136	2.2640E+03
CO-60*	.1830E+03	RU-105	3.2800E+04	CS-137	6.2350E+03
KR-85	5.7060E+02	RU-106	2.0460E+04	BA-139	5.2250E+04
KR-85M	9.1570E+03	RH-105	3.0800E+04	BA-140	5.0720E+04
KR-87	1.8520E+04	SB-127	2.6130E+03	LA-140	5.1060E+04
KR-88	2.5080E+04	SB-129	8.0400E+03	LA-141	4.7730E+04
RB-86	6.7530E+01	TE-127	2.5810E+03	LA-142	4.6850E+04
SR-89	3.4350E+04	TE-127M	4.4270E+02	CE-141	4.7760E+04
SR-90	4.6660E+03	TE-129	7.5370E+03	CE-143	4.6760E+04
SR-91	4.2570E+04	TE-129M	1.4490E+03	CE-144	3.8350E+04
SR-92	4.4110E+04	TE-131M	5.4370E+03	PR-143	4.6070E+04
Y-90	4.8000E+03	TE-132	3.8700E+04	ND-147	1.8650E+04
Y-91	4.3230E+04	I-131	2.7230E+04	NP-239	5.5720E+05
Y-92	4.4630E+04	I-132	3.9760E+04	PU-238	1.6990E+02
Y-93	4.8280E+04	I-133	5.6680E+04	PU-239	1.4790E+01
ZR-95	5.1320E+04	I-134	6.4970E+04	PU-240	2.7480E+01
ZR-97	4.9310E+04	I-135	5.3490E+04	PU-241	5.8840E+03
NB-95	5.1190E+04	XE-133	5.3930E+04	AM-241	1.0630E+01
MO-99	5.1650E+04	XE-135	2.6750E+04	CM-242	2.5990E+03
TC-99M	4.5690E+04	CS-134	7.7410E+03	CM-244	1.8170E+02

* CO-58 & CO-60 activities are obtained from RADTRAD User's Manual, Table 1.4.3.2-3 (Reference 9.2)

Table 1C
Comparison of Horizontal Pipe Length for Aerosol Deposition
(Measured between RPV and Outboard MSIV)

Steam Header ID	Horizontal Pipe Length (ft)		
	Quad Cities Limiting Case A	Dresden Unit 2 B	Dresden Unit 3 C
2/3-3001A	51.10	53.69	53.69
2/3-3001-C	57.45	62.62	63.57
2/3-3001-D	52.15	53.70	53.69

A From Reference 9.20, Section 7.3
B From Reference 9.15
C From Reference 9.16

Table 2
Rate Constant (λ_s) for Aerosol Settling In Main Steam Piping

Parameter	With MSIV Failure	Intact Steam Line Without MSIV Failure			
	RPV Nozzle A To Inboard MSIV1 To Outboard MSIV1 Control Volume V_1	RPV Nozzle D To Inboard MSIV2 Control Volume V_2	Inboard MSIV2 To Outboard MSIV2 Control Volume V_3	RPV Nozzle C To Inboard MSIV3 Control Volume V_4	Inboard MSIV3 To Outboard MSIV3 Control Volume V_5
Settling Velocity* (ft/hr)	9.56	9.56	9.56	9.56	9.56
Horizontal Settling Area AH_I (ft^2)	75.37	34.52	42.41	42.33	42.41
Horizontal Pipe Volume V_{HI} (ft^3)	87.28	39.97	49.11	49.01	49.11
Rate Constant for Settling λ_s (hr^{-1})	8.259	8.260	8.259	8.260	8.259

* 40 Percentile Settling Velocity = 0.00081 m/sec (Reference 9.5, Appendix A, Table A-1) x 3.28 ft/m x 3600 sec/hr = 9.56 ft/sec

Main Steam Piping Parameters From Section 7.3

Table 3
MSIV Leak Rate In Different Control Volume (250 scfh)

Post-LOCA Time Interval (hr)	MSIV Leak Rate From Drywell To Main Steam Various Control Volumes (cfh)/(cfm)							
	Drywell To MSIV Failed Volume V_1	Volume V_1 To Atmosphere	Drywell To Intact Line 1 Volume V_2	Intact Line 1 Volume V_2 To Volume V_3	Volume V_3 To Atmosphere	Drywell To Intact Line 2 Volume V_4	Intact Line 2 Volume V_4 To Volume V_5	Volume V_5 To Atmosphere
0-2	35.68 0.595	100 1.667	35.68 0.595	100 1.667	100 1.667	17.84 0.297	50 0.833	50 0.833
2-24	20.96 0.349	58.74 0.979	20.96 0.349	58.74 0.979	58.74 0.979	10.48 0.175	29.37 0.489	29.37 0.489
24-720	10.48 0.175	29.37 0.489	10.48 0.175	29.37 0.489	29.37 0.489	5.24 0.087	14.68 0.245	14.68 0.245

MSIV Leak Rate Information From Section 7.2

Table 4

Aerosol Removal Efficiency Due To Gravitational Deposition On Horizontal Pipe Surface

Post-LOCA Time Interval (hr)	Volume V_1 = 200.24 ft^3			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V4 = 163.75 ft^3			Aerosol Removal Efficiency (%)
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)			Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)	
0-720	8.259	87.28	100.00	87.82	0-720	8.261	49.01	50	89.01
Post-LOCA Time Interval (hr)	Volume V2 = 152.93 ft^3			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V5 = 49.11 ft^3			Aerosol Removal Efficiency (%)
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)			Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)	
0-720	8.260	39.97	100.00	76.75	0-720	8.260	49.11	50	89.03
Post-LOCA Time Interval (hr)	Volume V3 = 49.11 ft^3			Aerosol Removal Efficiency (%)					
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)						
0-720	8.260	49.11	100.00	80.22					

MSIV Failed Line Well Mixed Volume V1 = V11 + V12 =152.96 ft^3 + 47.28 ft^3 = 200.24 ft^3 Used In RADTRAD Model (Section 7.3.1)
MSIV Failed Line Horizontal Pipe Volume VH1 = VH11 + VH12 = 40.00 ft^3 + 47.28 ft^3 = 87.28 ft^3
.

Table 5
Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage (Framatome Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01
Kr-85	4.96E+01	1.29E+03	4.06E+03	7.97E+03	1.19E+04	1.33E+04
Kr-85m	6.66E+02	1.41E+04	3.26E+04	3.44E+04	1.49E+04	4.84E+03
Kr-87	1.03E+03	1.29E+04	1.37E+04	3.04E+03	5.78E+01	8.28E-01
Kr-88	1.75E+03	3.27E+04	6.35E+04	4.69E+04	9.92E+03	1.58E+03
Rb-86	1.27E+00	4.38E+00	4.57E+00	3.71E+00	2.81E+00	2.43E+00
Sr-89	9.40E+00	1.61E+02	1.83E+02	1.56E+02	1.29E+02	1.18E+02
Sr-90	1.48E+00	2.54E+01	2.88E+01	2.47E+01	2.05E+01	1.88E+01
Sr-91	1.14E+01	1.77E+02	1.73E+02	1.11E+02	5.15E+01	2.63E+01
Sr-92	1.06E+01	1.30E+02	8.83E+01	2.73E+01	2.92E+00	3.45E-01
Y-90	1.70E-02	4.85E-01	1.12E+00	1.95E+00	3.17E+00	4.22E+00
Y-91	1.22E-01	2.12E+00	2.47E+00	2.22E+00	1.95E+00	1.83E+00
Y-92	3.49E-01	2.34E+01	5.26E+01	4.45E+01	1.37E+01	3.37E+00
Y-93	9.24E-02	1.45E+00	1.43E+00	9.33E-01	4.47E-01	2.36E-01
Zr-95	1.73E-01	2.97E+00	3.36E+00	2.88E+00	2.38E+00	2.17E+00
Zr-97	1.64E-01	2.67E+00	2.78E+00	2.03E+00	1.21E+00	7.98E-01
Nb-95	1.73E-01	2.98E+00	3.37E+00	2.89E+00	2.40E+00	2.19E+00
Mo-99	2.25E+00	3.82E+01	4.24E+01	3.49E+01	2.66E+01	2.24E+01
Tc-99m	2.01E+00	3.45E+01	3.88E+01	3.27E+01	2.59E+01	2.24E+01
Ru-103	1.95E+00	3.35E+01	3.79E+01	3.25E+01	2.68E+01	2.43E+01
Ru-105	1.24E+00	1.72E+01	1.43E+01	6.57E+00	1.56E+00	4.10E-01
Ru-106	8.52E-01	1.46E+01	1.66E+01	1.42E+01	1.18E+01	1.08E+01
Rh-105	1.28E+00	2.20E+01	2.46E+01	2.02E+01	1.48E+01	1.17E+01
Sb-127	2.15E+00	3.65E+01	4.07E+01	3.39E+01	2.65E+01	2.28E+01
Sb-129	7.05E+00	9.78E+01	8.04E+01	3.63E+01	8.35E+00	2.12E+00
Te-127	2.14E+00	3.67E+01	4.15E+01	3.53E+01	2.86E+01	2.55E+01
Te-127m	3.67E-01	6.30E+00	7.14E+00	6.13E+00	5.09E+00	4.65E+00
Te-129	7.21E+00	1.11E+02	1.02E+02	5.59E+01	2.84E+01	1.93E+01
Te-129m	1.51E+00	2.59E+01	2.94E+01	2.52E+01	2.08E+01	1.89E+01

Table 5 (Cont'd)
Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage (Framatome Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Te-131m	4.83E+00	8.04E+01	8.69E+01	6.81E+01	4.70E+01	3.57E+01
Te-132	3.44E+01	5.84E+02	6.49E+02	5.38E+02	4.16E+02	3.54E+02
I-131	6.86E+02	2.72E+03	2.95E+03	2.56E+03	2.14E+03	1.94E+03
I-132	8.84E+02	3.06E+03	2.21E+03	9.89E+02	5.07E+02	4.24E+02
I-133	1.39E+03	5.30E+03	5.41E+03	4.17E+03	2.74E+03	1.95E+03
I-134	9.29E+02	1.29E+03	2.90E+02	1.08E+01	1.66E-02	2.77E-05
I-135	1.26E+03	4.37E+03	3.87E+03	2.24E+03	8.31E+02	3.34E+02
Xe-133	5.75E+03	1.48E+05	4.64E+05	8.92E+05	1.27E+06	1.36E+06
Xe-135	2.01E+03	5.14E+04	1.44E+05	2.10E+05	1.70E+05	1.04E+05
Cs-134	1.67E+02	5.79E+02	6.06E+02	4.95E+02	3.79E+02	3.32E+02
Cs-136	4.55E+01	1.57E+02	1.64E+02	1.33E+02	1.00E+02	8.61E+01
Cs-137	1.32E+02	4.59E+02	4.81E+02	3.92E+02	3.01E+02	2.64E+02
Ba-139	1.26E+01	1.10E+02	4.57E+01	5.25E+00	7.80E-02	1.28E-03
Ba-140	1.77E+01	3.02E+02	3.41E+02	2.90E+02	2.36E+02	2.12E+02
La-140	2.21E-01	7.44E+00	1.90E+01	3.44E+01	5.53E+01	7.17E+01
La-141	1.43E-01	1.95E+00	1.55E+00	6.57E-01	1.33E-01	2.96E-02
La-142	1.17E-01	1.10E+00	5.08E-01	7.22E-02	1.64E-03	4.11E-05
Ce-141	4.06E-01	6.97E+00	7.88E+00	6.75E+00	5.56E+00	5.05E+00
Ce-143	3.74E-01	6.24E+00	6.78E+00	5.35E+00	3.75E+00	2.90E+00
Ce-144	3.49E-01	5.99E+00	6.78E+00	5.82E+00	4.83E+00	4.41E+00
Pr-143	1.47E-01	2.53E+00	2.88E+00	2.50E+00	2.11E+00	1.95E+00
Nd-147	6.52E-02	1.12E+00	1.26E+00	1.07E+00	8.68E-01	7.77E-01
Np-239	4.74E+00	8.01E+01	8.86E+01	7.24E+01	5.45E+01	4.52E+01
Pu-238	1.25E-03	2.15E-02	2.43E-02	2.09E-02	1.73E-02	1.59E-02
Pu-239	1.18E-04	2.03E-03	2.30E-03	1.98E-03	1.64E-03	1.50E-03
Pu-240	2.17E-04	3.72E-03	4.21E-03	3.62E-03	3.00E-03	2.74E-03
Pu-241	4.78E-02	8.21E-01	9.30E-01	7.99E-01	6.63E-01	6.06E-01
Am-241	3.14E-05	5.40E-04	6.11E-04	5.26E-04	4.37E-04	4.00E-04
Cm-242	7.99E-03	1.37E-01	1.55E-01	1.33E-01	1.10E-01	1.01E-01
Cm-244	4.64E-04	7.98E-03	9.03E-03	7.76E-03	6.44E-03	5.88E-03

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE3CL395_Fram.o0

Table 6
Post-LOCA Reactor Building Isotopic Inventory - ESF Leakage (Framatome Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) ESF Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
I-131	2.64E+01	2.98E+02	8.53E+02	1.62E+03	2.34E+03	2.56E+03
I-132	3.37E+01	3.03E+02	5.12E+02	3.00E+02	4.03E+01	4.09E+00
I-133	5.33E+01	5.80E+02	1.56E+03	2.63E+03	3.00E+03	2.59E+03
I-134	3.57E+01	1.41E+02	8.37E+01	6.82E+00	1.82E-02	3.67E-05
I-135	4.84E+01	4.78E+02	1.12E+03	1.41E+03	9.09E+02	4.43E+02
Xe-133	1.24E-01	3.90E+00	2.62E+01	1.08E+02	2.97E+02	4.45E+02
Xe-135	1.37E+00	3.91E+01	2.28E+02	7.07E+02	1.11E+03	9.47E+02

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE3ES395_Fram.o0

Table 7
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages (Framatome Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02	5.59E-01
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01	6.71E-01
Kr-85	4.96E+01	1.29E+03	4.06E+03	7.97E+03	1.19E+04	1.33E+04	3.86E+04
Kr-85m	6.66E+02	1.41E+04	3.26E+04	3.44E+04	1.49E+04	4.84E+03	1.01E+05
Kr-87	1.03E+03	1.29E+04	1.37E+04	3.04E+03	5.78E+01	8.28E-01	3.07E+04
Kr-88	1.75E+03	3.27E+04	6.35E+04	4.69E+04	9.92E+03	1.58E+03	1.56E+05
Rb-86	1.27E+00	4.38E+00	4.57E+00	3.71E+00	2.81E+00	2.43E+00	1.92E+01
Sr-89	9.40E+00	1.61E+02	1.83E+02	1.56E+02	1.29E+02	1.18E+02	7.57E+02
Sr-90	1.48E+00	2.54E+01	2.88E+01	2.47E+01	2.05E+01	1.88E+01	1.20E+02
Sr-91	1.14E+01	1.77E+02	1.73E+02	1.11E+02	5.15E+01	2.63E+01	5.51E+02
Sr-92	1.06E+01	1.30E+02	8.83E+01	2.73E+01	2.92E+00	3.45E-01	2.60E+02
Y-90	1.70E-02	4.85E-01	1.12E+00	1.95E+00	3.17E+00	4.22E+00	1.10E+01
Y-91	1.22E-01	2.12E+00	2.47E+00	2.22E+00	1.95E+00	1.83E+00	1.07E+01
Y-92	3.49E-01	2.34E+01	5.26E+01	4.45E+01	1.37E+01	3.37E+00	1.38E+02
Y-93	9.24E-02	1.45E+00	1.43E+00	9.33E-01	4.47E-01	2.36E-01	4.59E+00
Zr-95	1.73E-01	2.97E+00	3.36E+00	2.88E+00	2.38E+00	2.17E+00	1.39E+01
Zr-97	1.64E-01	2.67E+00	2.78E+00	2.03E+00	1.21E+00	7.98E-01	9.65E+00
Nb-95	1.73E-01	2.98E+00	3.37E+00	2.89E+00	2.40E+00	2.19E+00	1.40E+01
Mo-99	2.25E+00	3.82E+01	4.24E+01	3.49E+01	2.66E+01	2.24E+01	1.67E+02
Tc-99m	2.01E+00	3.45E+01	3.88E+01	3.27E+01	2.59E+01	2.24E+01	1.56E+02
Ru-103	1.95E+00	3.35E+01	3.79E+01	3.25E+01	2.68E+01	2.43E+01	1.57E+02
Ru-105	1.24E+00	1.72E+01	1.43E+01	6.57E+00	1.56E+00	4.10E-01	4.13E+01
Ru-106	8.52E-01	1.46E+01	1.66E+01	1.42E+01	1.18E+01	1.08E+01	6.89E+01
Rh-105	1.28E+00	2.20E+01	2.46E+01	2.02E+01	1.48E+01	1.17E+01	9.45E+01
Sb-127	2.15E+00	3.65E+01	4.07E+01	3.39E+01	2.65E+01	2.28E+01	1.63E+02
Sb-129	7.05E+00	9.78E+01	8.04E+01	3.63E+01	8.35E+00	2.12E+00	2.32E+02
Te-127	2.14E+00	3.67E+01	4.15E+01	3.53E+01	2.86E+01	2.55E+01	1.70E+02
Te-127m	3.67E-01	6.30E+00	7.14E+00	6.13E+00	5.09E+00	4.65E+00	2.97E+01
Te-129	7.21E+00	1.11E+02	1.02E+02	5.59E+01	2.84E+01	1.93E+01	3.24E+02
Te-129m	1.51E+00	2.59E+01	2.94E+01	2.52E+01	2.08E+01	1.89E+01	1.22E+02

Table 7 (Cont'd)
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages
(Framatome Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Te-131m	4.83E+00	8.04E+01	8.69E+01	6.81E+01	4.70E+01	3.57E+01	3.23E+02
Te-132	3.44E+01	5.84E+02	6.49E+02	5.38E+02	4.16E+02	3.54E+02	2.58E+03
I-131	7.13E+02	3.02E+03	3.81E+03	4.18E+03	4.48E+03	4.50E+03	2.07E+04
I-132	9.18E+02	3.36E+03	2.72E+03	1.29E+03	5.47E+02	4.28E+02	9.27E+03
I-133	1.44E+03	5.88E+03	6.97E+03	6.80E+03	5.74E+03	4.55E+03	3.14E+04
I-134	9.65E+02	1.43E+03	3.74E+02	1.76E+01	3.48E-02	6.43E-05	2.79E+03
I-135	1.31E+03	4.85E+03	4.98E+03	3.65E+03	1.74E+03	7.77E+02	1.73E+04
Xe-133	5.75E+03	1.48E+05	4.64E+05	8.92E+05	1.27E+06	1.36E+06	4.15E+06
Xe-135	2.01E+03	5.15E+04	1.44E+05	2.11E+05	1.71E+05	1.05E+05	6.85E+05
Cs-134	1.67E+02	5.79E+02	6.06E+02	4.95E+02	3.79E+02	3.32E+02	2.56E+03
Cs-136	4.55E+01	1.57E+02	1.64E+02	1.33E+02	1.00E+02	8.61E+01	6.86E+02
Cs-137	1.32E+02	4.59E+02	4.81E+02	3.92E+02	3.01E+02	2.64E+02	2.03E+03
Ba-139	1.26E+01	1.10E+02	4.57E+01	5.25E+00	7.80E-02	1.28E-03	1.74E+02
Ba-140	1.77E+01	3.02E+02	3.41E+02	2.90E+02	2.36E+02	2.12E+02	1.40E+03
La-140	2.21E-01	7.44E+00	1.90E+01	3.44E+01	5.53E+01	7.17E+01	1.88E+02
La-141	1.43E-01	1.95E+00	1.55E+00	6.57E-01	1.33E-01	2.96E-02	4.46E+00
La-142	1.17E-01	1.10E+00	5.08E-01	7.22E-02	1.64E-03	4.11E-05	1.80E+00
Ce-141	4.06E-01	6.97E+00	7.88E+00	6.75E+00	5.56E+00	5.05E+00	3.26E+01
Ce-143	3.74E-01	6.24E+00	6.78E+00	5.35E+00	3.75E+00	2.90E+00	2.54E+01
Ce-144	3.49E-01	5.99E+00	6.78E+00	5.82E+00	4.83E+00	4.41E+00	2.82E+01
Pr-143	1.47E-01	2.53E+00	2.88E+00	2.50E+00	2.11E+00	1.95E+00	1.21E+01
Nd-147	6.52E-02	1.12E+00	1.26E+00	1.07E+00	8.68E-01	7.77E-01	5.15E+00
Np-239	4.74E+00	8.01E+01	8.86E+01	7.24E+01	5.45E+01	4.52E+01	3.46E+02
Pu-238	1.25E-03	2.15E-02	2.43E-02	2.09E-02	1.73E-02	1.59E-02	1.01E-01
Pu-239	1.18E-04	2.03E-03	2.30E-03	1.98E-03	1.64E-03	1.50E-03	9.57E-03
Pu-240	2.17E-04	3.72E-03	4.21E-03	3.62E-03	3.00E-03	2.74E-03	1.75E-02
Pu-241	4.78E-02	8.21E-01	9.30E-01	7.99E-01	6.63E-01	6.06E-01	3.87E+00
Am-241	3.14E-05	5.40E-04	6.11E-04	5.26E-04	4.37E-04	4.00E-04	2.55E-03
Cm-242	7.99E-03	1.37E-01	1.55E-01	1.33E-01	1.10E-01	1.01E-01	6.45E-01
Cm-244	4.64E-04	7.98E-03	9.03E-03	7.76E-03	6.44E-03	5.88E-03	3.76E-02

Table 8
Post-LOCA Containment Shine Integrated Gamma Dose (Framatome Fuel)

Post-LOCA Period t (hr)	Control Room Gamma Dose Rate (mrem/hr)	Control Room Integrated Gamma Dose (w/o CROF) (mrem)	Control Room Occupancy Factor (unitless)	Control Room Integrated Gamma Dose (with CROF) (mrem)	Control Room Cumulative Gamma Dose (mrem)	MicroShield Run No.
0.667	1.09E+00	3.63E-01	1	3.63E-01	3.63E-01	DRE667_Fram.MSD
2	1.41E+01	1.01E+01	1	1.01E+01	1.05E+01	DRE2_Fram.MSD
4	2.35E+01	3.76E+01	1	3.76E+01	4.80E+01	DRE4_Fram.MSD
8	1.55E+01	7.80E+01	1	7.80E+01	1.26E+02	DRE8_Fram.MSD
16	3.32E+00	7.53E+01	1	7.53E+01	2.01E+02	DRE16_Fram.MSD
24	6.49E-01	1.59E+01	1	1.59E+01	2.17E+02	DRE24_Fram.MSD
96	6.49E-01	4.68E+01	0.6	2.81E+01	2.45E+02	DRE24_Fram.MSD
720	6.49E-01	4.05E+02	0.4	1.62E+02	4.07E+02	DRE24_Fram.MSD
720-hrs Cumulative Gamma Dose					**4.07E+02**	

Table 9 (Historical)
Post-LOCA Elemental Iodine Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time (hrs)	Failed MS Line Cumulative Elem. Iodine Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Elem. Iodine Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Elem. Iodine Transported to Environment (atoms) [C]	Total Cumulative Elem. Iodine Transported to Environment (atoms) [A+B+C]	Time Interval (hrs)	MSIV Elem. Iodine Transported to Environment (atoms)
0.6667	1.1288E+16	1.3648E+15	1.7704E+14	1.2830E+16		
2	1.9479E+17	5.4320E+16	8.5067E+15	2.5762E+17	0.6667 to 2	2.4479E+17
3.05	3.3027E+17	1.1252E+17	1.9138E+16	4.6193E+17		
8	7.4202E+17	3.6534E+17	9.2173E+16	1.1995E+18	2 to 8	9.4192E+17
24	1.1329E+18	5.6831E+17	2.3299E+17	1.9342E+18	8 to 24	7.3467E+17
96	1.6665E+18	8.3113E+17	3.8543E+17	2.8831E+18	24 to 96	9.4884E+17
720	2.7970E+18	1.3964E+18	6.6901E+17	4.8624E+18	96 to 720	1.9793E+18

A, B & C From RADTRAD Run DRE3MS395.o0 output file

Table 10 (Historical)
Post-LOCA Total Elemental Iodine Inventory On CR Charcoal Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time Interval (hrs)	MSIV Elem. Iodine Transported to Environment (atoms) [A]	X/Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	Charcoal Filter Efficiency (fraction) [F]	Filter Inventory Elem. Iodine (atoms) [A*B*C*D*E*F]
0.6667 to 2	2.4479E+17	1.30E-03	0.01667	0.02832	1800	0.99	2.677E+14
2 to 8	9.4192E+17	1.06E-03	0.01667	0.02832	1800	0.99	8.398E+14
8 to 24	7.3467E+17	4.49E-04	0.01667	0.02832	1800	0.99	2.775E+14
24 to 96	9.4884E+17	2.96E-04	0.01667	0.02832	1800	0.99	2.362E+14
96 to 720	1.9793E+18	2.44E-04	0.01667	0.02832	1800	0.99	4.062E+14
						Total =	2.027E+15

Table 11 (Historical)
Post-LOCA Organic Iodide Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time (hrs)	Failed MS Line Cumulative Org. Iodide Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Org. Iodide Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Org. Iodide Transported to Environment (atoms) [C]	Total Cumulative Org. Iodide Transported to Environment (atoms) [A+B+C]	Time Interval (hrs)	MSIV Org. Iodide Transported to Environment (atoms)
0.6667	1.1187E+15	2.5138E+14	3.2418E+13	1.4025E+15		
2	3.4674E+16	1.7223E+16	2.6163E+15	5.4513E+16	0.6667 to 2	5.3111E+16
3.05	7.4979E+16	4.4177E+16	7.1685E+15	1.2632E+17		
8	4.2318E+17	3.6554E+17	7.9265E+16	8.6799E+17	2 to 8	8.1347E+17
24	2.0397E+18	2.0193E+18	6.9094E+17	4.7499E+18	8 to 24	3.8820E+18
96	7.9706E+18	7.9573E+18	3.6122E+18	1.9540E+19	24 to 96	1.4790E+19
720	2.0909E+19	2.0896E+19	1.0103E+19	5.1908E+19	96 to 720	3.2368E+19

A, B & C From RADTRAD Run DRE3MS395.o0 output file

Table 12 (Historical)
Post-LOCA Total Organic Iodide Inventory On CR Charcoal Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time Interval (hrs)	MSIV Organic Iodide Transported to Environment (atoms) [A]	χ /Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	Charcoal Filter Efficiency (fraction) [F]	Filter Inventory Organic Iodide (atoms) [A*B*C*D*E*F]
0.6667 to 2	5.3111E+16	1.30E-03	0.01667	0.02832	1800	0.99	5.807E+13
2 to 8	8.1347E+17	1.06E-03	0.01667	0.02832	1800	0.99	7.253E+14
8 to 24	3.8820E+18	4.49E-04	0.01667	0.02832	1800	0.99	1.466E+15
24 to 96	1.4790E+19	2.96E-04	0.01667	0.02832	1800	0.99	3.682E+15
96 to 720	3.2368E+19	2.44E-04	0.01667	0.02832	1800	0.99	6.643E+15
						Total =	1.257E+16

Table 13 (Historical)
Post-LOCA Aerosol Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time (hrs)	Failed MS Line Cumulative Aerosols Transported to Environment (kg) [A]	Intact MS Line 1 Cumulative Aerosols Transported to Environment (kg) [B]	Intact MS Line 2 Cumulative Aerosols Transported to Environment (kg) [C]	Total Cumulative Aerosols Transported to Environment (kg) [A+B+C]	Time Interval (hrs)	MSIV Aerosols Transported to Environment (kg)
0.6667	4.6294E-06	1.5797E-07	4.8925E-09	4.7923E-06		
2	1.2308E-04	9.3732E-06	3.4424E-07	1.3280E-04	0.6667 to 2	1.2801E-04
3.05	2.4756E-04	2.2841E-05	9.0069E-07	2.7130E-04		
8	7.5147E-04	1.0878E-04	6.3076E-06	8.6656E-04	2 to 8	7.3376E-04
24	1.1437E-03	1.7239E-04	1.7844E-05	1.3339E-03	8 to 24	4.6738E-04
96	1.1718E-03	1.7440E-04	2.0828E-05	1.3670E-03	24 to 96	3.3100E-05
720	1.1738E-03	1.7470E-04	2.0865E-05	1.3694E-03	96 to 720	2.4000E-06

A, B & C From RADTRAD Run DRE3MS395.o0 output file

Table 14 (Historical)
Post-LOCA Total Aerosol Inventory On CR HEPA Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Framatome Fuel)

Time Interval (hrs)	MSIV Aerosols Transported to Environment (kg) [A]	χ /Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	HEPA Filter Efficiency (fraction) [F]	Filter Inventory Aerosols (kg) [A*B*C*D*E*F]
0.6667 to 2	1.2801E-04	1.30E-03	0.01667	0.02832	1800	0.99	1.400E-07
2 to 8	7.3376E-04	1.06E-03	0.01667	0.02832	1800	0.99	6.543E-07
8 to 24	4.6738E-04	4.49E-04	0.01667	0.02832	1800	0.99	1.765E-07
24 to 96	3.3100E-05	2.96E-04	0.01667	0.02832	1800	0.99	8.242E-09
96 to 720	2.4000E-06	2.44E-04	0.01667	0.02832	1800	0.99	4.926E-10
						Total =	9.796E-07

Table 15 (Historical)
Conversion of Iodine Activity Into Iodine Atom (Framatome Fuel)

Isotope	RB Region @ 0.5 hr		Iodine Atoms Per (Curie)	Isotopic Iodine Fraction
	Activity (Curie) A	Atoms B	Ci = Bi /Ai	Di = Bi/ΣB
I-131	7.921E+02	2.937E+19	3.708E+16	7.657E-01
I-132	1.045E+03	4.617E+17	4.420E+14	1.204E-02
I-133	1.611E+03	6.440E+18	3.997E+15	1.679E-01
I-134	1.223E+03	2.060E+17	1.685E+14	5.371E-03
I-135	1.480E+03	1.879E+18	1.270E+15	4.900E-02
Total		3.836E+19		1.000E+00

A & B From RADTRAD Run DRE3CL395.o0 output file @ 0.5 hr from Reactor Building Compartment Nuclide Inventory

Table 16 (Historical)
Post-LOCA MSIV Leakage Iodine Activity Deposited on CR Charcoal Filter (Framatome Fuel)

Isotope	Iodine Atoms Per Curie A	Fraction Of Iodine B	Elemental & Organic Iodine Atoms On CR Charcoal 720 Hrs C	Iodine Atoms on CR Charcoal Filter At 720 Hrs Di =Bi * C	Iodine Activity CR Charcoal Filter At 720 Hrs Ci Ei = Di / Ai
I-131	3.708E+16	7.657E-01	1.4597E+16	1.118E+16	3.014E-01
I-132	4.420E+14	1.204E-02		1.757E+14	3.975E-01
I-133	3.997E+15	1.679E-01		2.451E+15	6.131E-01
I-134	1.685E+14	5.371E-03		7.839E+13	4.654E-01
I-135	1.270E+15	4.900E-02		7.152E+14	5.630E-01
Total Iodine Sump Atoms/Activity				1.460E+16	2.340E+00

A & B From Table 15
C From Section 7.10.1 (Table 10 + Table 12 atom inventories)

Table 17 (Historical)
Relationship of Aerosol Mass and Activity (Framatome Fuel)

Isotope	RB Region @ 0.6667 hr		Aerosol Mass Per Ci (kg/Ci)	Isotopic Aerosol Fraction
	Activity (Curie) A	Mass (kg) B	Ci = Bi /Ai	Di = Bi/ΣB
Co-58	9.421E-03	2.963E-10	3.145E-08	8.309E-08
Co-60	1.128E-02	9.977E-09	8.847E-07	2.798E-06
Rb-86	2.715E+00	3.336E-08	1.229E-08	9.357E-06
Sr-89	1.278E+01	4.398E-07	3.442E-08	1.234E-04
Sr-90	2.011E+00	1.474E-05	7.331E-06	4.134E-03
Sr-91	1.545E+01	4.261E-09	2.759E-10	1.195E-06
Sr-92	1.447E+01	1.152E-09	7.956E-11	3.230E-07
Y-90	2.325E-02	4.273E-11	1.838E-09	1.198E-08
Y-91	1.654E-01	6.746E-09	4.078E-08	1.892E-06
Y-92	4.971E-01	5.167E-11	1.039E-10	1.449E-08
Y-93	1.256E-01	3.763E-11	2.997E-10	1.055E-08
Zr-95	2.353E-01	1.095E-08	4.655E-08	3.072E-06
Zr-97	2.227E-01	1.165E-10	5.231E-10	3.267E-08
Nb-95	2.354E-01	6.020E-09	2.557E-08	1.688E-06
Mo-99	3.064E+00	6.388E-09	2.085E-09	1.792E-06
Tc-99m	2.736E+00	5.203E-10	1.902E-10	1.459E-07
Ru-103	2.655E+00	8.227E-08	3.098E-08	2.307E-05
Ru-105	1.679E+00	2.498E-10	1.488E-10	7.007E-08
Ru-106	1.159E+00	3.463E-07	2.989E-07	9.712E-05
Rh-105	1.745E+00	2.068E-09	1.185E-09	5.800E-07
Sb-127	2.916E+00	1.092E-08	3.744E-09	3.062E-06
Sb-129	9.584E+00	1.704E-09	1.778E-10	4.780E-07
Te-127	2.909E+00	1.102E-09	3.789E-10	3.091E-07
Te-127m	4.986E-01	5.286E-08	1.060E-07	1.483E-05
Te-129	9.802E+00	4.681E-10	4.775E-11	1.313E-07
Te-129m	2.052E+00	6.810E-08	3.320E-08	1.910E-05

Table 17 (Cont'd) (Historical)
Relationship of Aerosol Mass and Activity (Framatome Fuel)

Isotope	RB Region @ 0.6667 hr		Aerosol Mass Per Ci (kg/Ci)	Isotopic Aerosol Fraction
	Activity (Curie) A	Mass (kg) B	Ci = Bi /Ai	Di = Bi/ΣB
Te-131m	6.560E+00	8.226E-09	1.254E-09	2.307E-06
Te-132	4.672E+01	1.539E-07	3.294E-09	4.316E-05
Cs-134	3.582E+02	2.769E-04	7.729E-07	7.765E-02
Cs-136	9.761E+01	1.332E-06	1.364E-08	3.735E-04
Cs-137	2.841E+02	3.266E-03	1.150E-05	9.160E-01
Ba-139	1.707E+01	1.043E-09	6.113E-11	2.927E-07
Ba-140	2.399E+01	3.277E-07	1.366E-08	9.192E-05
La-140	3.037E-01	5.463E-10	1.799E-09	1.532E-07
La-141	1.948E-01	3.444E-11	1.768E-10	9.659E-09
La-142	1.587E-01	1.109E-11	6.986E-11	3.109E-09
Ce-141	5.517E-01	1.936E-08	3.509E-08	5.430E-06
Ce-143	5.078E-01	7.646E-10	1.506E-09	2.145E-07
Ce-144	4.740E-01	1.486E-07	3.135E-07	4.168E-05
Pr-143	1.995E-01	2.963E-09	1.485E-08	8.310E-07
Nd-147	8.861E-02	1.095E-09	1.236E-08	3.072E-07
Np-239	6.445E+00	2.778E-08	4.310E-09	7.792E-06
Pu-238	1.700E-03	9.930E-08	5.841E-05	2.785E-05
Pu-239	1.606E-04	2.584E-06	1.609E-02	7.248E-04
Pu-240	2.942E-04	1.291E-06	4.389E-03	3.622E-04
Pu-241	6.498E-02	6.308E-07	9.708E-06	1.769E-04
Am-241	4.27E-05	1.24E-08	2.914E-04	3.487E-06
Cm-242	1.09E-02	3.27E-09	3.017E-07	9.185E-07
Cm-244	6.31E-04	7.80E-09	1.236E-05	2.188E-06
Total		3.565E-03		1.000E+00

A & B From RADTRAD Run DRE3CL395.o0 output file @ 0.6667 hr
from Reactor Building Compartment Nuclide Inventory

Table 18 (Historical)
Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs
Post-LOCA MSIV Leakage (Framatome Fuel)

Isotope	Aerosol Mass Per Ci (kg/Ci) A_i	Fraction of Aerosol B_i	Total CR Filter Aerosol Mass At 720 Hr (kg) C	Aerosol Isotopic: Aerosol Mass On CR Filter At 720 Hr (kg) Di =Bi * C	Aerosol Isotopic: Aerosol Activity On CR Filter At 720 Hr (Ci) Ei = Di / Ai
Co-58	3.145E-08	8.309E-08	9.796E-07	8.133E-14	2.586E-06
Co-60	8.847E-07	2.798E-06		2.739E-12	3.096E-06
Rb-86	1.229E-08	9.357E-06		9.159E-12	7.452E-04
Sr-89	3.442E-08	1.234E-04		1.207E-10	3.508E-03
Sr-90	7.331E-06	4.134E-03		4.047E-09	5.520E-04
Sr-91	2.759E-10	1.195E-06		1.170E-12	4.240E-03
Sr-92	7.956E-11	3.230E-07		3.161E-13	3.973E-03
Y-90	1.838E-09	1.198E-08		1.173E-14	6.382E-06
Y-91	4.078E-08	1.892E-06		1.852E-12	4.542E-05
Y-92	1.039E-10	1.449E-08		1.418E-14	1.365E-04
Y-93	2.997E-10	1.055E-08		1.033E-14	3.447E-05
Zr-95	4.655E-08	3.072E-06		3.007E-12	6.460E-05
Zr-97	5.231E-10	3.267E-08		3.198E-14	6.113E-05
Nb-95	2.557E-08	1.688E-06		1.653E-12	6.462E-05
Mo-99	2.085E-09	1.792E-06		1.754E-12	8.411E-04
Tc-99m	1.902E-10	1.459E-07		1.428E-13	7.511E-04
Ru-103	3.098E-08	2.307E-05		2.258E-11	7.289E-04
Ru-105	1.488E-10	7.007E-08		6.858E-14	4.610E-04
Ru-106	2.989E-07	9.712E-05		9.507E-11	3.180E-04
Rh-105	1.185E-09	5.800E-07		5.677E-13	4.791E-04
Sb-127	3.744E-09	3.062E-06		2.997E-12	8.004E-04
Sb-129	1.778E-10	4.780E-07		4.679E-13	2.631E-03
Te-127	3.789E-10	3.091E-07		3.026E-13	7.985E-04
Te-127m	1.060E-07	1.483E-05		1.451E-11	1.369E-04
Te-129	4.775E-11	1.313E-07		1.285E-13	2.691E-03
Te-129m	3.320E-08	1.910E-05		1.870E-11	5.632E-04

Table 18 (Cont'd) (Historical)

Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs

Post-LOCA MSIV Leakage (Framatome Fuel)

Isotope	Aerosol Mass Per Ci (kg/Ci) A_i	Fraction of Aerosol B_i	Total CR Filter Aerosol Mass At 720 Hr (kg) C	Aerosol Isotopic: Aerosol Mass On CR Filter At 720 Hr (kg) Di =Bi * C	Aerosol Isotopic: Aerosol Activity On CR Filter At 720 Hr (Ci) Ei = Di / Ai
Te-131m	1.254E-09	2.307E-06	9.796E-07	2.258E-12	1.801E-03
Te-132	3.294E-09	4.316E-05		4.225E-11	1.283E-02
Cs-134	7.729E-07	7.765E-02		7.600E-08	9.833E-02
Cs-136	1.364E-08	3.735E-04		3.656E-10	2.680E-02
Cs-137	1.150E-05	9.160E-01		8.966E-07	7.799E-02
Ba-139	6.113E-11	2.927E-07		2.864E-13	4.686E-03
Ba-140	1.366E-08	9.192E-05		8.998E-11	6.587E-03
La-140	1.799E-09	1.532E-07		1.500E-13	8.336E-05
La-141	1.768E-10	9.659E-09		9.454E-15	5.347E-05
La-142	6.986E-11	3.109E-09		3.043E-15	4.356E-05
Ce-141	3.509E-08	5.430E-06		5.315E-12	1.514E-04
Ce-143	1.506E-09	2.145E-07		2.099E-13	1.394E-04
Ce-144	3.135E-07	4.168E-05		4.080E-11	1.301E-04
Pr-143	1.485E-08	8.310E-07		8.134E-13	5.477E-05
Nd-147	1.236E-08	3.072E-07		3.007E-13	2.433E-05
Np-239	4.310E-09	7.792E-06		7.627E-12	1.769E-03
Pu-238	5.841E-05	2.785E-05		2.726E-11	4.667E-07
Pu-239	1.609E-02	7.248E-04		7.094E-10	4.410E-08
Pu-240	4.389E-03	3.622E-04		3.545E-10	8.078E-08
Pu-241	9.708E-06	1.769E-04		1.732E-10	1.784E-05
Am-241	2.914E-04	3.487E-06		3.413E-12	1.171E-08
Cm-242	3.017E-07	9.185E-07		8.990E-13	2.980E-06
Cm-244	1.236E-05	2.188E-06		2.141E-12	1.732E-07
Total Aerosol Activity					**2.563E-01**

A_i & B_i From Table 17

C From Section 7.10.2 (Table 14 kilogram inventory)

Table 19
Spray Cutoff Timing

Framatome Fuel					
Hours after LOCA	Aerosols (kg)	DF	Hours after LOCA	Elem (atoms)	DF
0.1667	3.36E+00	1.00E+00	0.1667	3.16E+21	1.00E+00
1	1.91E+00	1.76E+00	1	2.08E+21	1.52E+00
2	1.91E+00	1.76E+00	2	2.05E+21	1.54E+00
2.2	9.50E-02	3.54E+01	2.2	1.02E+20	3.11E+01
2.25	4.49E-02	7.49E+01	2.25	4.80E+19	6.59E+01
2.3	2.12E-02	1.59E+02	2.3	2.26E+19	1.40E+02
2.35	1.00E-02	3.36E+02	2.35	1.07E+19	2.96E+02
Westinghouse Fuel					
Hours after LOCA	Aerosols (kg)	DF	Hours after LOCA	Elem (atoms)	DF
0.1667	3.26E+00	1.00E+00	0.1667	3.20E+21	1.00E+00
1	1.84E+00	1.77E+00	1	2.10E+21	1.52E+00
2	1.84E+00	1.77E+00	2	2.07E+21	1.54E+00
2.2	9.18E-02	3.55E+01	2.2	1.03E+20	3.11E+01
2.25	4.34E-02	7.51E+01	2.25	4.85E+19	6.59E+01
2.3	2.05E-02	1.59E+02	2.3	2.29E+19	1.40E+02
2.35	9.68E-03	3.37E+02	2.35	1.08E+19	2.96E+02
GNF3 Fuel					
Hours after LOCA	Aerosols (kg)	DF	Hours after LOCA	Elem (atoms)	DF
0.1667	3.92E+00	1.00E+00	0.1667	3.24E+21	1.00E+00
1	2.22E+00	1.76E+00	1	2.13E+21	1.52E+00
2	2.22E+00	1.76E+00	2	2.10E+21	1.54E+00
2.2	1.11E-01	3.54E+01	2.2	1.04E+20	3.11E+01
2.25	5.23E-02	7.50E+01	2.25	4.91E+19	6.60E+01
2.3	2.47E-02	1.59E+02	2.3	2.32E+19	1.40E+02
2.35	1.17E-02	3.36E+02	2.35	1.09E+19	2.96E+02

Table 20

Dresden Westinghouse Core Inventory

Isotope	Core Inventory (Ci)		Isotope	Core Inventory (Ci)	
	38 GWD/MTU A	39 GWD/MTU B		38 GWD/MTU A	39 GWD/MTU B
KR-85	1.35E+06	1.39E+06	TE-132	1.16E+08	1.16E+08
KR-85M	2.25E+07	2.24E+07	I-131	8.15E+07	8.15E+07
KR-87	4.36E+07	4.33E+07	I-132	1.18E+08	1.18E+08
KR-88	6.13E+07	6.10E+07	I-133	1.66E+08	1.67E+08
RB-86	1.88E+05	1.95E+05	I-134	1.83E+08	1.84E+08
SR-89	8.28E+07	8.19E+07	I-135	1.55E+08	1.56E+08
SR-90	1.11E+07	1.13E+07	XE-133	1.62E+08	1.60E+08
SR-91	1.03E+08	1.02E+08	XE-135	6.64E+07	6.62E+07
SR-92	1.10E+08	1.10E+08	CS-134	2.28E+07	2.41E+07
Y-90	1.13E+07	1.16E+07	CS-136	5.73E+06	5.89E+06
Y-91	1.06E+08	1.05E+08	CS-137	1.48E+07	1.53E+07
Y-92	1.10E+08	1.10E+08	BA-139	1.49E+08	1.50E+08
Y-93	1.26E+08	1.26E+08	BA-140	1.45E+08	1.45E+08
ZR-95	1.40E+08	1.39E+08	LA-140	1.50E+08	1.56E+08
ZR-97	1.37E+08	1.38E+08	LA-141	1.36E+08	1.37E+08
NB-95	1.40E+08	1.40E+08	LA-142	1.32E+08	1.32E+08
MO-99	1.53E+08	1.54E+08	CE-141	1.37E+08	1.37E+08
TC-99M	1.34E+08	1.35E+08	CE-143	1.28E+08	1.28E+08
RU-103	1.29E+08	1.30E+08	CE-144	1.14E+08	1.14E+08
RU-105	9.12E+07	9.28E+07	PR-143	1.25E+08	1.24E+08
RU-106	5.54E+07	5.70E+07	ND-147	5.46E+07	5.47E+07
RH-105	8.61E+07	8.75E+07	NP-239	1.61E+09	1.63E+09
SB-127	8.91E+06	8.97E+06	PU-238	5.89E+05	6.35E+05
SB-129	2.64E+07	2.66E+07	PU-239	3.75E+04	3.76E+04
TE-127	8.83E+06	8.92E+06	PU-240	3.76E+04	3.79E+04
TE-127M	1.18E+06	1.20E+06	PU-241	2.22E+07	2.26E+07
TE-129	2.60E+07	2.62E+07	AM-241	3.93E+04	4.00E+04
TE-129M	3.87E+06	3.89E+06	CM-242	7.51E+06	7.86E+06
TE-131M	1.18E+07	1.19E+07	CM-244	8.73E+05	1.01E+06

A & B From Reference 9.18, Tables 5-3 & 5-4

Table 20A
Dresden Westinghouse Core Inventory @ 39 GWD/MTU Burnup – RADTRAD Nuclide Inventory File

Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14
CO-58*		.1529E+03	RU-103	1.30E+08	.4310E+05	CS-136	5.89E+06	.1953E+04
CO-60*		.1830E+03	RU-105	9.28E+07	.3077E+05	CS-137	1.53E+07	.5073E+04
KR-85	1.39E+06	.4609E+03	RU-106	5.70E+07	.1890E+05	BA-139	1.50E+08	.4973E+05
KR-85M	2.24E+07	.7427E+04	RH-105	8.75E+07	.2901E+05	BA-140	1.45E+08	.4807E+05
KR-87	4.33E+07	.1436E+05	SB-127	8.97E+06	.2974E+04	LA-140	1.56E+08	.5172E+05
KR-88	6.10E+07	.2022E+05	SB-129	2.66E+07	.8819E+04	LA-141	1.37E+08	.4542E+05
RB-86	1.95E+05	.6465E+02	TE-127	8.92E+06	.2957E+04	LA-142	1.32E+08	.4376E+05
SR-89	8.19E+07	.2715E+05	TE-127M	1.20E+06	.3979E+03	CE-141	1.37E+08	.4542E+05
SR-90	1.13E+07	.3747E+04	TE-129	2.62E+07	.8687E+04	CE-143	1.28E+08	.4244E+05
SR-91	1.02E+08	.3382E+05	TE-129M	3.89E+06	.1290E+04	CE-144	1.14E+08	.3780E+05
SR-92	1.10E+08	.3647E+05	TE-131M	1.19E+07	.3945E+04	PR-143	1.24E+08	.4111E+05
Y-90	1.16E+07	.3846E+04	TE-132	1.16E+08	.3846E+05	ND-147	5.47E+07	.1814E+05
Y-91	1.05E+08	.3481E+05	I-131	8.15E+07	.2702E+05	NP-239	1.63E+09	.5404E+06
Y-92	1.10E+08	.3647E+05	I-132	1.18E+08	.3912E+05	PU-238	6.35E+05	.2105E+03
Y-93	1.26E+08	.4178E+05	I-133	1.67E+08	.5537E+05	PU-239	3.76E+04	.1247E+02
ZR-95	1.39E+08	.4609E+05	I-134	1.84E+08	.6101E+05	PU-240	3.79E+04	.1257E+02
ZR-97	1.38E+08	.4575E+05	I-135	1.56E+08	.5172E+05	PU-241	2.26E+07	.7493E+04
NB-95	1.40E+08	.4642E+05	XE-133	1.60E+08	.5305E+05	AM-241	4.00E+04	.1326E+02
MO-99	1.54E+08	.5106E+05	XE-135	6.62E+07	.2195E+05	CM-242	7.86E+06	.2606E+04
TC-99M	1.35E+08	.4476E+05	CS-134	2.41E+07	.7990E+04	CM-244	1.01E+06	.3349E+03

* CO-58 & CO-60 activities are obtained from RADTRAD User's Manual, Table 1.4.3.2-3 (Reference 9.2)
A for 39 GWD/MTU From Table 20

Table 21
Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage
(Westinghouse Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01
Kr-85	5.03E+01	1.31E+03	4.12E+03	8.09E+03	1.21E+04	1.35E+04
Kr-85m	7.31E+02	1.54E+04	3.58E+04	3.78E+04	1.63E+04	5.31E+03
Kr-87	1.09E+03	1.37E+04	1.45E+04	3.22E+03	6.13E+01	8.77E-01
Kr-88	1.88E+03	3.51E+04	6.81E+04	5.04E+04	1.07E+04	1.69E+03
Rb-86	1.60E+00	5.54E+00	5.79E+00	4.69E+00	3.56E+00	3.08E+00
Sr-89	9.85E+00	1.69E+02	1.91E+02	1.64E+02	1.35E+02	1.23E+02
Sr-90	1.36E+00	2.34E+01	2.64E+01	2.27E+01	1.88E+01	1.72E+01
Sr-91	1.17E+01	1.82E+02	1.78E+02	1.14E+02	5.29E+01	2.70E+01
Sr-92	1.12E+01	1.36E+02	9.25E+01	2.86E+01	3.06E+00	3.62E-01
Y-90	1.55E-02	4.44E-01	1.03E+00	1.79E+00	2.91E+00	3.87E+00
Y-91	1.27E-01	2.20E+00	2.56E+00	2.31E+00	2.02E+00	1.90E+00
Y-92	3.64E-01	2.45E+01	5.51E+01	4.66E+01	1.43E+01	3.53E+00
Y-93	1.45E-01	2.27E+00	2.24E+00	1.46E+00	7.01E-01	3.70E-01
Zr-95	1.67E-01	2.87E+00	3.25E+00	2.78E+00	2.30E+00	2.10E+00
Zr-97	1.61E-01	2.63E+00	2.74E+00	2.00E+00	1.19E+00	7.86E-01
Nb-95	1.68E-01	2.89E+00	3.28E+00	2.81E+00	2.33E+00	2.13E+00
Mo-99	2.30E+00	3.90E+01	4.32E+01	3.56E+01	2.71E+01	2.28E+01
Tc-99m	2.03E+00	3.48E+01	3.93E+01	3.31E+01	2.63E+01	2.28E+01
Ru-103	1.95E+00	3.35E+01	3.79E+01	3.25E+01	2.68E+01	2.43E+01
Ru-105	1.26E+00	1.75E+01	1.45E+01	6.69E+00	1.59E+00	4.17E-01
Ru-106	8.57E-01	1.47E+01	1.67E+01	1.43E+01	1.19E+01	1.08E+01
Rh-105	1.32E+00	2.25E+01	2.52E+01	2.07E+01	1.51E+01	1.19E+01
Sb-127	2.68E+00	4.56E+01	5.09E+01	4.25E+01	3.32E+01	2.86E+01
Sb-129	7.19E+00	9.97E+01	8.19E+01	3.70E+01	8.51E+00	2.16E+00
Te-127	2.68E+00	4.58E+01	5.15E+01	4.35E+01	3.49E+01	3.09E+01
Te-127m	3.61E-01	6.20E+00	7.02E+00	6.04E+00	5.01E+00	4.58E+00
Te-129	7.46E+00	1.11E+02	1.01E+02	5.30E+01	2.47E+01	1.57E+01
Te-129m	1.17E+00	2.01E+01	2.28E+01	1.95E+01	1.61E+01	1.46E+01

Table 21 (Cont'd)

Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage (Westinghouse Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Te-131m	3.52E+00	5.87E+01	6.35E+01	4.97E+01	3.43E+01	2.60E+01
Te-132	3.47E+01	5.89E+02	6.55E+02	5.43E+02	4.20E+02	3.57E+02
I-131	6.96E+02	2.76E+03	2.99E+03	2.60E+03	2.17E+03	1.96E+03
I-132	8.92E+02	3.08E+03	2.23E+03	9.97E+02	5.11E+02	4.28E+02
I-133	1.40E+03	5.33E+03	5.44E+03	4.19E+03	2.76E+03	1.97E+03
I-134	9.29E+02	1.29E+03	2.90E+02	1.08E+01	1.66E-02	2.77E-05
I-135	1.24E+03	4.31E+03	3.82E+03	2.21E+03	8.20E+02	3.30E+02
Xe-133	5.79E+03	1.49E+05	4.67E+05	8.97E+05	1.28E+06	1.37E+06
Xe-135	2.43E+03	6.13E+04	1.71E+05	2.48E+05	2.01E+05	1.23E+05
Cs-134	1.98E+02	6.87E+02	7.20E+02	5.87E+02	4.50E+02	3.95E+02
Cs-136	4.84E+01	1.67E+02	1.74E+02	1.41E+02	1.06E+02	9.16E+01
Cs-137	1.26E+02	4.36E+02	4.57E+02	3.73E+02	2.86E+02	2.51E+02
Ba-139	1.29E+01	1.13E+02	4.70E+01	5.40E+00	8.01E-02	1.31E-03
Ba-140	1.74E+01	2.98E+02	3.36E+02	2.86E+02	2.33E+02	2.09E+02
La-140	2.19E-01	7.36E+00	1.88E+01	3.39E+01	5.46E+01	7.08E+01
La-141	1.46E-01	1.99E+00	1.58E+00	6.72E-01	1.36E-01	3.03E-02
La-142	1.18E-01	1.11E+00	5.11E-01	7.27E-02	1.65E-03	4.14E-05
Ce-141	4.12E-01	7.07E+00	8.00E+00	6.85E+00	5.64E+00	5.13E+00
Ce-143	3.80E-01	6.34E+00	6.89E+00	5.44E+00	3.81E+00	2.95E+00
Ce-144	3.43E-01	5.89E+00	6.67E+00	5.72E+00	4.75E+00	4.34E+00
Pr-143	1.49E-01	2.57E+00	2.93E+00	2.54E+00	2.14E+00	1.98E+00
Nd-147	6.57E-02	1.12E+00	1.27E+00	1.08E+00	8.75E-01	7.83E-01
Np-239	4.86E+00	8.22E+01	9.08E+01	7.43E+01	5.58E+01	4.63E+01
Pu-238	1.91E-03	3.28E-02	3.71E-02	3.19E-02	2.65E-02	2.42E-02
Pu-239	1.13E-04	1.94E-03	2.20E-03	1.89E-03	1.57E-03	1.44E-03
Pu-240	1.14E-04	1.96E-03	2.22E-03	1.91E-03	1.58E-03	1.45E-03
Pu-241	6.80E-02	1.17E+00	1.32E+00	1.14E+00	9.42E-01	8.61E-01
Am-241	4.81E-05	8.27E-04	9.37E-04	8.05E-04	6.69E-04	6.13E-04
Cm-242	9.45E-03	1.62E-01	1.84E-01	1.58E-01	1.31E-01	1.19E-01
Cm-244	1.21E-03	2.09E-02	2.36E-02	2.03E-02	1.68E-02	1.54E-02

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE39CL395_West.o0

Table 22
Post-LOCA Reactor Building Isotopic Inventory - ESF Leakage (Westinghouse Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) ESF Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
I-131	2.67E+01	3.02E+02	8.64E+02	1.64E+03	2.37E+03	2.60E+03
I-132	3.40E+01	3.05E+02	5.16E+02	3.03E+02	4.07E+01	4.13E+00
I-133	5.37E+01	5.83E+02	1.57E+03	2.65E+03	3.02E+03	2.61E+03
I-134	3.57E+01	1.41E+02	8.37E+01	6.82E+00	1.82E-02	3.67E-05
I-135	4.78E+01	4.72E+02	1.10E+03	1.40E+03	8.97E+02	4.38E+02
Xe-133	1.25E-01	3.92E+00	2.64E+01	1.08E+02	2.99E+02	4.47E+02
Xe-135	1.35E+00	3.86E+01	2.25E+02	6.98E+02	1.09E+03	9.35E+02

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE39ES395_West.o0

Table 23
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages (Westinghouse Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02	5.59E-01
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01	6.71E-01
Kr-85	5.03E+01	1.31E+03	4.12E+03	8.09E+03	1.21E+04	1.35E+04	3.91E+04
Kr-85m	7.31E+02	1.54E+04	3.58E+04	3.78E+04	1.63E+04	5.31E+03	1.11E+05
Kr-87	1.09E+03	1.37E+04	1.45E+04	3.22E+03	6.13E+01	8.77E-01	3.26E+04
Kr-88	1.88E+03	3.51E+04	6.81E+04	5.04E+04	1.07E+04	1.69E+03	1.68E+05
Rb-86	1.60E+00	5.54E+00	5.79E+00	4.69E+00	3.56E+00	3.08E+00	2.43E+01
Sr-89	9.85E+00	1.69E+02	1.91E+02	1.64E+02	1.35E+02	1.23E+02	7.92E+02
Sr-90	1.36E+00	2.34E+01	2.64E+01	2.27E+01	1.88E+01	1.72E+01	1.10E+02
Sr-91	1.17E+01	1.82E+02	1.78E+02	1.14E+02	5.29E+01	2.70E+01	5.66E+02
Sr-92	1.12E+01	1.36E+02	9.25E+01	2.86E+01	3.06E+00	3.62E-01	2.72E+02
Y-90	1.55E-02	4.44E-01	1.03E+00	1.79E+00	2.91E+00	3.87E+00	1.01E+01
Y-91	1.27E-01	2.20E+00	2.56E+00	2.31E+00	2.02E+00	1.90E+00	1.11E+01
Y-92	3.64E-01	2.45E+01	5.51E+01	4.66E+01	1.43E+01	3.53E+00	1.44E+02
Y-93	1.45E-01	2.27E+00	2.24E+00	1.46E+00	7.01E-01	3.70E-01	7.19E+00
Zr-95	1.67E-01	2.87E+00	3.25E+00	2.78E+00	2.30E+00	2.10E+00	1.35E+01
Zr-97	1.61E-01	2.63E+00	2.74E+00	2.00E+00	1.19E+00	7.86E-01	9.51E+00
Nb-95	1.68E-01	2.89E+00	3.28E+00	2.81E+00	2.33E+00	2.13E+00	1.36E+01
Mo-99	2.30E+00	3.90E+01	4.32E+01	3.56E+01	2.71E+01	2.28E+01	1.70E+02
Tc-99m	2.03E+00	3.48E+01	3.93E+01	3.31E+01	2.63E+01	2.28E+01	1.58E+02
Ru-103	1.95E+00	3.35E+01	3.79E+01	3.25E+01	2.68E+01	2.43E+01	1.57E+02
Ru-105	1.26E+00	1.75E+01	1.45E+01	6.69E+00	1.59E+00	4.17E-01	4.20E+01
Ru-106	8.57E-01	1.47E+01	1.67E+01	1.43E+01	1.19E+01	1.08E+01	6.93E+01
Rh-105	1.32E+00	2.25E+01	2.52E+01	2.07E+01	1.51E+01	1.19E+01	9.68E+01
Sb-127	2.68E+00	4.56E+01	5.09E+01	4.25E+01	3.32E+01	2.86E+01	2.03E+02
Sb-129	7.19E+00	9.97E+01	8.19E+01	3.70E+01	8.51E+00	2.16E+00	2.36E+02
Te-127	2.68E+00	4.58E+01	5.15E+01	4.35E+01	3.49E+01	3.09E+01	2.09E+02
Te-127m	3.61E-01	6.20E+00	7.02E+00	6.04E+00	5.01E+00	4.58E+00	2.92E+01
Te-129	7.46E+00	1.11E+02	1.01E+02	5.30E+01	2.47E+01	1.57E+01	3.13E+02
Te-129m	1.17E+00	2.01E+01	2.28E+01	1.95E+01	1.61E+01	1.46E+01	9.43E+01

Table 23 (Cont'd)
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages
(Westinghouse Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Te-131m	3.52E+00	5.87E+01	6.35E+01	4.97E+01	3.43E+01	2.60E+01	2.36E+02
Te-132	3.47E+01	5.89E+02	6.55E+02	5.43E+02	4.20E+02	3.57E+02	2.60E+03
I-131	7.22E+02	3.06E+03	3.86E+03	4.24E+03	4.54E+03	4.56E+03	2.10E+04
I-132	9.26E+02	3.39E+03	2.75E+03	1.30E+03	5.52E+02	4.32E+02	9.35E+03
I-133	1.45E+03	5.91E+03	7.01E+03	6.84E+03	5.78E+03	4.57E+03	3.16E+04
I-134	9.65E+02	1.43E+03	3.74E+02	1.76E+01	3.48E-02	6.44E-05	2.79E+03
I-135	1.29E+03	4.79E+03	4.92E+03	3.61E+03	1.72E+03	7.67E+02	1.71E+04
Xe-133	5.79E+03	1.49E+05	4.67E+05	8.97E+05	1.28E+06	1.37E+06	4.17E+06
Xe-135	2.43E+03	6.13E+04	1.71E+05	2.49E+05	2.03E+05	1.24E+05	8.10E+05
Cs-134	1.98E+02	6.87E+02	7.20E+02	5.87E+02	4.50E+02	3.95E+02	3.04E+03
Cs-136	4.84E+01	1.67E+02	1.74E+02	1.41E+02	1.06E+02	9.16E+01	7.29E+02
Cs-137	1.26E+02	4.36E+02	4.57E+02	3.73E+02	2.86E+02	2.51E+02	1.93E+03
Ba-139	1.29E+01	1.13E+02	4.70E+01	5.40E+00	8.01E-02	1.31E-03	1.79E+02
Ba-140	1.74E+01	2.98E+02	3.36E+02	2.86E+02	2.33E+02	2.09E+02	1.38E+03
La-140	2.19E-01	7.36E+00	1.88E+01	3.39E+01	5.46E+01	7.08E+01	1.86E+02
La-141	1.46E-01	1.99E+00	1.58E+00	6.72E-01	1.36E-01	3.03E-02	4.56E+00
La-142	1.18E-01	1.11E+00	5.11E-01	7.27E-02	1.65E-03	4.14E-05	1.81E+00
Ce-141	4.12E-01	7.07E+00	8.00E+00	6.85E+00	5.64E+00	5.13E+00	3.31E+01
Ce-143	3.80E-01	6.34E+00	6.89E+00	5.44E+00	3.81E+00	2.95E+00	2.58E+01
Ce-144	3.43E-01	5.89E+00	6.67E+00	5.72E+00	4.75E+00	4.34E+00	2.77E+01
Pr-143	1.49E-01	2.57E+00	2.93E+00	2.54E+00	2.14E+00	1.98E+00	1.23E+01
Nd-147	6.57E-02	1.12E+00	1.27E+00	1.08E+00	8.75E-01	7.83E-01	5.19E+00
Np-239	4.86E+00	8.22E+01	9.08E+01	7.43E+01	5.58E+01	4.63E+01	3.54E+02
Pu-238	1.91E-03	3.28E-02	3.71E-02	3.19E-02	2.65E-02	2.42E-02	1.54E-01
Pu-239	1.13E-04	1.94E-03	2.20E-03	1.89E-03	1.57E-03	1.44E-03	9.16E-03
Pu-240	1.14E-04	1.96E-03	2.22E-03	1.91E-03	1.58E-03	1.45E-03	9.22E-03
Pu-241	6.80E-02	1.17E+00	1.32E+00	1.14E+00	9.42E-01	8.61E-01	5.50E+00
Am-241	4.81E-05	8.27E-04	9.37E-04	8.05E-04	6.69E-04	6.13E-04	3.90E-03
Cm-242	9.45E-03	1.62E-01	1.84E-01	1.58E-01	1.31E-01	1.19E-01	7.63E-01
Cm-244	1.21E-03	2.09E-02	2.36E-02	2.03E-02	1.68E-02	1.54E-02	9.83E-02

Containment Leakage RB Inventory From Table 21 and ESF Leakage RB Inventory From Table 22

Table 24
Post-LOCA Containment Shine Integrated Gamma Dose (Westinghouse Fuel)

Post-LOCA Period t (hr)	Control Room Gamma Dose Rate (mrem/hr)	Control Room Integrated Gamma Dose (w/o CROF) (mrem)	Control Room Occupancy Factor (unitless)	Control Room Integrated Gamma Dose (with CROF) (mrem)	Control Room Cumulative Gamma Dose (mrem)	MicroShield Run No.
0.667	1.14E+00	3.80E-01	1	3.80E-01	3.80E-01	DRE667_West.MSD
2	1.50E+01	1.08E+01	1	1.08E+01	1.11E+01	DRE2_West.MSD
4	2.51E+01	4.01E+01	1	4.01E+01	5.12E+01	DRE4_West.MSD
8	1.66E+01	8.33E+01	1	8.33E+01	1.35E+02	DRE8_West.MSD
16	3.55E+00	8.06E+01	1	8.06E+01	2.15E+02	DRE16_West.MSD
24	6.83E-01	1.69E+01	1	1.69E+01	2.32E+02	DRE24_West.MSD
96	6.83E-01	4.92E+01	0.6	2.95E+01	2.62E+02	DRE24_West.MSD
720	6.83E-01	4.26E+02	0.4	1.70E+02	4.32E+02	DRE24_West.MSD
720-hrs Cumulative Gamma Dose					**4.32E+02**	

Table 25 (Historical)
Post-LOCA Elemental Iodine Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time (hrs)	Failed MS Line Cumulative Elem. Iodine Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Elem. Iodine Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Elem. Iodine Transported to Environment (atoms) [C]	Total Cumulative Elem. Iodine Transported to Environment (atoms) [A+B+C]	Time Interval (hrs)	MSIV Elem. Iodine Transported to Environment (atoms)
0.6667	1.1411E+16	1.3797E+15	1.7898E+14	1.2970E+16		
2	1.9693E+17	5.4919E+16	8.6005E+15	2.6045E+17	0.6667 to 2	2.4748E+17
3.05	3.3391E+17	1.1376E+17	1.9350E+16	4.6702E+17		
8	7.5034E+17	3.6946E+17	9.3218E+16	1.2130E+18	2 to 8	9.5257E+17
24	1.1458E+18	5.7483E+17	2.3570E+17	1.9563E+18	8 to 24	7.4331E+17
96	1.6862E+18	8.4099E+17	3.9007E+17	2.9173E+18	24 to 96	9.6093E+17
720	2.8315E+18	1.4136E+18	6.7737E+17	4.9225E+18	96 to 720	2.0052E+18

A, B & C From RADTRAD Run DRE39MS395.o0 output file

Table 26 (Historical)
Post-LOCA Total Elemental Iodine Inventory On CR Charcoal Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time Interval (hrs)	MSIV Elem. Iodine Transported to Environment (atoms) [A]	X/Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	Charcoal Filter Efficiency (fraction) [F]	Filter Inventory Elem. Iodine (atoms) [A*B*C*D*E*F]
0.6667 to 2	2.4748E+17	1.30E-03	0.01667	0.02832	1800	0.99	2.706E+14
2 to 8	9.5257E+17	1.06E-03	0.01667	0.02832	1800	0.99	8.493E+14
8 to 24	7.4331E+17	4.49E-04	0.01667	0.02832	1800	0.99	2.807E+14
24 to 96	9.6093E+17	2.96E-04	0.01667	0.02832	1800	0.99	2.392E+14
96 to 720	2.0052E+18	2.44E-04	0.01667	0.02832	1800	0.99	4.115E+14
						Total =	2.051E+15

Table 27 (Historical)
Post-LOCA Organic Iodide Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time (hrs)	Failed MS Line Cumulative Org. Iodide Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Org. Iodide Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Org. Iodide Transported to Environment (atoms) [C]	Total Cumulative Org. Iodide Transported to Environment (atoms) [A+B+C]	Time Interval (hrs)	MSIV Org. Iodide Transported to Environment (atoms)
0.6667	1.1309E+15	2.5412E+14	3.2771E+13	1.4178E+15		
2	3.5056E+16	1.7413E+16	2.6452E+15	5.5114E+16	0.6667 to 2	5.3696E+16
3.05	7.5809E+16	4.4667E+16	7.2481E+15	1.2772E+17		
8	4.2798E+17	3.6970E+17	8.0169E+16	8.7785E+17	2 to 8	8.2273E+17
24	2.0638E+18	2.0432E+18	6.9917E+17	4.8062E+18	8 to 24	3.9283E+18
96	8.0707E+18	8.0575E+18	3.6578E+18	1.9786E+19	24 to 96	1.4980E+19
720	2.1180E+19	2.1167E+19	1.0234E+19	5.2581E+19	96 to 720	3.2794E+19

A, B & C From RADTRAD Run DRE39MS395.o0 output file

Table 28 (Historical)
Post-LOCA Total Organic Iodide Inventory On CR Charcoal Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time Interval (hrs)	MSIV Organic Iodide Transported to Environment (atoms) [A]	X/Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	Charcoal Filter Efficiency (fraction) [F]	Filter Inventory Organic Iodide (atoms) [A*B*C*D*E*F]
0.6667 to 2	5.3696E+16	1.30E-03	0.01667	0.02832	1800	0.99	5.871E+13
2 to 8	8.2273E+17	1.06E-03	0.01667	0.02832	1800	0.99	7.335E+14
8 to 24	3.9283E+18	4.49E-04	0.01667	0.02832	1800	0.99	1.484E+15
24 to 96	1.4980E+19	2.96E-04	0.01667	0.02832	1800	0.99	3.729E+15
96 to 720	3.2794E+19	2.44E-04	0.01667	0.02832	1800	0.99	6.730E+15
						Total =	1.274E+16

Table 29 (Historical)
Post-LOCA Aerosol Inventory Transported to the Environment
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time (hrs)	Failed MS Line Cumulative Aerosols Transported to Environment (kg) [A]	Intact MS Line 1 Cumulative Aerosols Transported to Environment (kg) [B]	Intact MS Line 2 Cumulative Aerosols Transported to Environment (kg) [C]	Total Cumulative Aerosols Transported to Environment (kg) [A+B+C]	Time Interval (hrs)	MSIV Aerosols Transported to Environment (kg)
0.6667	4.4859E-06	1.5308E-07	4.7412E-09	4.6437E-06		
2	1.1909E-04	9.0717E-06	3.3319E-07	1.2849E-04	0.6667 to 2	1.2385E-04
3.05	2.3948E-04	2.2099E-05	8.7149E-07	2.6245E-04		
8	7.2678E-04	1.0520E-04	6.1007E-06	8.3808E-04	2 to 8	7.0959E-04
24	1.1060E-03	1.6671E-04	1.7257E-05	1.2900E-03	8 to 24	4.5189E-04
96	1.1332E-03	1.6866E-04	2.0142E-05	1.3220E-03	24 to 96	3.2000E-05
720	1.1352E-03	1.6895E-04	2.0178E-05	1.3243E-03	96 to 720	2.3000E-06

A, B & C From RADTRAD Run DRE39MS395.o0 output file

Table 30 (Historical)
Post-LOCA Total Aerosol Inventory On CR HEPA Filter @ 720 Hrs
Due to Post-LOCA MSIV Leakage (Westinghouse Fuel)

Time Interval (hrs)	MSIV Aerosols Transported to Environment (kg) [A]	X/Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	HEPA Filter Efficiency (fraction) [F]	Filter Inventory Aerosols (kg) [A*B*C*D*E*F]
0.6667 to 2	1.2385E-04	1.30E-03	0.01667	0.02832	1800	0.99	1.354E-07
2 to 8	7.0959E-04	1.06E-03	0.01667	0.02832	1800	0.99	6.328E-07
8 to 24	4.5189E-04	4.49E-04	0.01667	0.02832	1800	0.99	1.707E-07
24 to 96	3.2000E-05	2.96E-04	0.01667	0.02832	1800	0.99	7.969E-09
96 to 720	2.3000E-06	2.44E-04	0.01667	0.02832	1800	0.99	4.721E-10
						Total =	9.474E-07

Table 31 (Historical)
Conversion of Iodine Activity Into Iodine Atom (Westinghouse Fuel)

Isotope	RB Region @ 0.5 hr		Iodine Atoms Per (Curie)	Isotopic Iodine Fraction
	Activity (Curie) A	Atoms B	Ci = Bi /Ai	Di = Bi/ΣB
I-131	8.029E+02	2.977E+19	3.708E+16	7.677E-01
I-132	1.054E+03	4.656E+17	4.420E+14	1.201E-02
I-133	1.621E+03	6.479E+18	3.997E+15	1.671E-01
I-134	1.223E+03	2.060E+17	1.685E+14	5.313E-03
I-135	1.461E+03	1.856E+18	1.270E+15	4.785E-02
Total		3.878E+19		1.000E+00

A & B From RADTRAD Run DRE39CL395.o0 output file @ 0.5 hr from Reactor Building Compartment Nuclide Inventory

Table 32 (Historical)
Post-LOCA MSIV Leakage Iodine Activity Deposited on CR Charcoal Filter (Westinghouse Fuel)

Isotope	Iodine Atoms Per Curie A	Fraction Of Iodine B	Elemental & Organic Iodine Atoms On CR Charcoal 720 Hrs C	Iodine Atoms on CR Charcoal Filter At 720 Hrs Di =Bi * C	Iodine Activity CR Charcoal Filter At 720 Hrs Ci Ei = Di / Ai
I-131	3.708E+16	7.677E-01	1.4791E+16	1.136E+16	3.062E-01
I-132	4.420E+14	1.201E-02		1.776E+14	4.018E-01
I-133	3.997E+15	1.671E-01		2.471E+15	6.183E-01
I-134	1.685E+14	5.313E-03		7.859E+13	4.665E-01
I-135	1.270E+15	4.785E-02		7.078E+14	5.572E-01
Total Iodine Sump Atoms/Activity				1.479E+16	2.350E+00

A & B From Table 31
C From Section 7.10.1 (Table 26 + Table 28 atom inventories)

Table 33 (Historical)
Relationship of Aerosol Mass and Activity (Westinghouse Fuel)

Isotope	RB Region @ 0.6667 hr		Aerosol Mass Per Ci (kg/Ci) Ci = Bi /Ai	Isotopic Aerosol Fraction Di = Bi/ΣB
	Activity (Curie) A	Mass (kg) B		
Co-58	9.421E-03	2.963E-10	3.145E-08	8.578E-08
Co-60	1.128E-02	9.977E-09	8.847E-07	2.889E-06
Rb-86	3.437E+00	4.224E-08	1.229E-08	1.223E-05
Sr-89	1.338E+01	4.606E-07	3.442E-08	1.334E-04
Sr-90	1.847E+00	1.354E-05	7.331E-06	3.921E-03
Sr-91	1.588E+01	4.382E-09	2.759E-10	1.269E-06
Sr-92	1.516E+01	1.206E-09	7.956E-11	3.493E-07
Y-90	2.125E-02	3.905E-11	1.838E-09	1.131E-08
Y-91	1.720E-01	7.012E-09	4.078E-08	2.030E-06
Y-92	5.193E-01	5.397E-11	1.039E-10	1.563E-08
Y-93	1.968E-01	5.898E-11	2.997E-10	1.708E-08
Zr-95	2.272E-01	1.058E-08	4.655E-08	3.062E-06
Zr-97	2.195E-01	1.148E-10	5.231E-10	3.324E-08
Nb-95	2.289E-01	5.853E-09	2.557E-08	1.695E-06
Mo-99	3.125E+00	6.515E-09	2.085E-09	1.887E-06
Tc-99m	2.759E+00	5.247E-10	1.902E-10	1.519E-07
Ru-103	2.655E+00	8.226E-08	3.099E-08	2.382E-05
Ru-105	1.709E+00	2.542E-10	1.488E-10	7.361E-08
Ru-106	1.165E+00	3.481E-07	2.989E-07	1.008E-04
Rh-105	1.788E+00	2.118E-09	1.185E-09	6.134E-07
Sb-127	3.647E+00	1.366E-08	3.745E-09	3.955E-06
Sb-129	9.768E+00	1.737E-09	1.778E-10	5.029E-07
Te-127	3.637E+00	1.378E-09	3.789E-10	3.990E-07
Te-127m	4.905E-01	5.200E-08	1.060E-07	1.506E-05
Te-129	1.014E+01	4.840E-10	4.775E-11	1.401E-07
Te-129m	1.590E+00	5.279E-08	3.320E-08	1.529E-05

Table 33 (Cont'd) (Historical)
Relationship of Aerosol Mass and Activity

Isotope	RB Region @ 0.6667 hr		Aerosol	Isotopic
	Activity (Curie) A	Mass (kg) B	Mass Per Ci (kg/Ci) Ci = Bi /Ai	Aerosol Fraction Di = Bi/ΣB
Te-131m	4.788E+00	6.005E-09	1.254E-09	1.739E-06
Te-132	4.713E+01	1.552E-07	3.294E-09	4.495E-05
Cs-134	4.252E+02	3.287E-04	7.729E-07	9.516E-02
Cs-136	1.038E+02	1.416E-06	1.364E-08	4.100E-04
Cs-137	2.700E+02	3.104E-03	1.150E-05	8.988E-01
Ba-139	1.753E+01	1.072E-09	6.114E-11	3.104E-07
Ba-140	2.367E+01	3.233E-07	1.366E-08	9.360E-05
La-140	3.014E-01	5.422E-10	1.799E-09	1.570E-07
La-141	1.991E-01	3.521E-11	1.768E-10	1.019E-08
La-142	1.599E-01	1.117E-11	6.986E-11	3.234E-09
Ce-141	5.598E-01	1.965E-08	3.510E-08	5.688E-06
Ce-143	5.158E-01	7.768E-10	1.506E-09	2.249E-07
Ce-144	4.659E-01	1.461E-07	3.135E-07	4.229E-05
Pr-143	2.028E-01	3.011E-09	1.485E-08	8.719E-07
Nd-147	8.928E-02	1.104E-09	1.236E-08	3.195E-07
Np-239	6.607E+00	2.848E-08	4.310E-09	8.246E-06
Pu-238	2.595E-03	1.516E-07	5.841E-05	4.388E-05
Pu-239	1.537E-04	2.473E-06	1.609E-02	7.161E-04
Pu-240	1.549E-04	6.800E-07	4.388E-03	1.969E-04
Pu-241	9.236E-02	8.966E-07	9.708E-06	2.596E-04
Am-241	6.538E-05	1.905E-08	2.914E-04	5.516E-06
Cm-242	1.285E-02	3.876E-09	3.017E-07	1.122E-06
Cm-244	1.651E-03	2.041E-08	1.236E-05	5.909E-06
Total		3.454E-03		1.000E+00

A & B From RADTRAD Run DRE39CL395.o0 output file @ 0.6667 hr
from Reactor Building Compartment Nuclide Inventory

Table 34 (Historical)
Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs
Post-LOCA MSIV Leakage (Westinghouse Fuel)

Isotope	Aerosol Mass Per Ci (kg/Ci) A_i	Fraction of Aerosol B_i	Total CR Filter Aerosol Mass At 720 Hr (kg) C	Aerosol Isotopic: Aerosol Mass On CR Filter At 720 Hr (kg) Di =Bi * C	Aerosol Isotopic: Aerosol Activity On CR Filter At 720 Hr (Ci) Ei = Di / Ai
Co-58	3.145E-08	8.578E-08	9.474E-07	8.120E-14	2.582E-06
Co-60	8.847E-07	2.889E-06		2.735E-12	3.091E-06
Rb-86	1.229E-08	1.223E-05		1.158E-11	9.421E-04
Sr-89	3.442E-08	1.334E-04		1.262E-10	3.668E-03
Sr-90	7.331E-06	3.921E-03		3.712E-09	5.063E-04
Sr-91	2.759E-10	1.269E-06		1.201E-12	4.353E-03
Sr-92	7.956E-11	3.493E-07		3.306E-13	4.156E-03
Y-90	1.838E-09	1.131E-08		1.070E-14	5.823E-06
Y-91	4.078E-08	2.030E-06		1.922E-12	4.713E-05
Y-92	1.039E-10	1.563E-08		1.479E-14	1.423E-04
Y-93	2.997E-10	1.708E-08		1.617E-14	5.393E-05
Zr-95	4.655E-08	3.062E-06		2.898E-12	6.226E-05
Zr-97	5.231E-10	3.324E-08		3.147E-14	6.016E-05
Nb-95	2.557E-08	1.695E-06		1.604E-12	6.273E-05
Mo-99	2.085E-09	1.887E-06		1.786E-12	8.565E-04
Tc-99m	1.902E-10	1.519E-07		1.438E-13	7.561E-04
Ru-103	3.099E-08	2.382E-05		2.255E-11	7.277E-04
Ru-105	1.488E-10	7.361E-08		6.968E-14	4.684E-04
Ru-106	2.989E-07	1.008E-04		9.542E-11	3.192E-04
Rh-105	1.185E-09	6.134E-07		5.806E-13	4.901E-04
Sb-127	3.745E-09	3.955E-06		3.743E-12	9.997E-04
Sb-129	1.778E-10	5.029E-07		4.761E-13	2.677E-03
Te-127	3.789E-10	3.990E-07		3.777E-13	9.968E-04
Te-127m	1.060E-07	1.506E-05		1.425E-11	1.344E-04
Te-129	4.775E-11	1.401E-07		1.327E-13	2.778E-03
Te-129m	3.320E-08	1.529E-05		1.447E-11	4.359E-04

Table 34 (Cont'd) (Historical)

Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs

Post-LOCA MSIV Leakage (Westinghouse Fuel)

Isotope	Aerosol Mass Per Ci (kg/Ci) A_i	Fraction of Aerosol B_i	Total CR Filter Aerosol Mass At 720 Hr (kg) C	Aerosol Isotopic: Aerosol Mass On CR Filter At 720 Hr (kg) Di =Bi * C	Aerosol Isotopic: Aerosol Activity On CR Filter At 720 Hr (Ci) Ei = Di / Ai
Te-131m	1.254E-09	1.739E-06	9.474E-07	1.646E-12	1.312E-03
Te-132	3.294E-09	4.495E-05		4.255E-11	1.292E-02
Cs-134	7.729E-07	9.516E-02		9.008E-08	1.165E-01
Cs-136	1.364E-08	4.100E-04		3.881E-10	2.845E-02
Cs-137	1.150E-05	8.988E-01		8.508E-07	7.400E-02
Ba-139	6.114E-11	3.104E-07		2.938E-13	4.806E-03
Ba-140	1.366E-08	9.360E-05		8.860E-11	6.486E-03
La-140	1.799E-09	1.570E-07		1.486E-13	8.260E-05
La-141	1.768E-10	1.019E-08		9.649E-15	5.457E-05
La-142	6.986E-11	3.234E-09		3.061E-15	4.382E-05
Ce-141	3.510E-08	5.688E-06		5.385E-12	1.534E-04
Ce-143	1.506E-09	2.249E-07		2.129E-13	1.414E-04
Ce-144	3.135E-07	4.229E-05		4.004E-11	1.277E-04
Pr-143	1.485E-08	8.719E-07		8.253E-13	5.558E-05
Nd-147	1.236E-08	3.195E-07		3.025E-13	2.447E-05
Np-239	4.310E-09	8.246E-06		7.805E-12	1.811E-03
Pu-238	5.841E-05	4.388E-05		4.154E-11	7.111E-07
Pu-239	1.609E-02	7.161E-04		6.778E-10	4.213E-08
Pu-240	4.388E-03	1.969E-04		1.864E-10	4.247E-08
Pu-241	9.708E-06	2.596E-04		2.457E-10	2.531E-05
Am-241	2.914E-04	5.516E-06		5.221E-12	1.792E-08
Cm-242	3.017E-07	1.122E-06		1.062E-12	3.521E-06
Cm-244	1.236E-05	5.909E-06		5.594E-12	4.526E-07
Total Aerosol Activity					**2.727E-01**

Ai & B_i From Table 33

C From Section 7.10.2 (Table 30 kilogram inventory)

Table 35
Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage
(GNF3 Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01
Kr-85	6.23E+01	1.62E+03	5.10E+03	1.00E+04	1.49E+04	1.67E+04
Kr-85m	9.02E+02	1.90E+04	4.41E+04	4.66E+04	2.01E+04	6.55E+03
Kr-87	1.41E+03	1.76E+04	1.87E+04	4.15E+03	7.90E+01	1.13E+00
Kr-88	2.33E+03	4.36E+04	8.45E+04	6.25E+04	1.32E+04	2.10E+03
Rb-86	1.67E+00	5.79E+00	6.05E+00	4.90E+00	3.72E+00	3.22E+00
Sr-89	1.25E+01	2.14E+02	2.42E+02	2.07E+02	1.71E+02	1.56E+02
Sr-90	1.69E+00	2.91E+01	3.29E+01	2.83E+01	2.35E+01	2.15E+01
Sr-91	1.47E+01	2.29E+02	2.24E+02	1.44E+02	6.66E+01	3.40E+01
Sr-92	1.35E+01	1.65E+02	1.12E+02	3.46E+01	3.70E+00	4.38E-01
Y-90	1.94E-02	5.54E-01	1.28E+00	2.23E+00	3.63E+00	4.82E+00
Y-91	1.57E-01	2.73E+00	3.19E+00	2.87E+00	2.51E+00	2.36E+00
Y-92	4.42E-01	2.97E+01	6.67E+01	5.64E+01	1.74E+01	4.27E+00
Y-93	1.67E-01	2.62E+00	2.59E+00	1.69E+00	8.10E-01	4.28E-01
Zr-95	1.86E-01	3.20E+00	3.62E+00	3.10E+00	2.56E+00	2.33E+00
Zr-97	1.74E-01	2.83E+00	2.95E+00	2.15E+00	1.29E+00	8.47E-01
Nb-95	1.86E-01	3.19E+00	3.61E+00	3.10E+00	2.57E+00	2.35E+00
Mo-99	2.33E+00	3.94E+01	4.37E+01	3.60E+01	2.74E+01	2.31E+01
Tc-99m	2.07E+00	3.55E+01	4.00E+01	3.36E+01	2.67E+01	2.31E+01
Ru-103	2.06E+00	3.53E+01	3.99E+01	3.42E+01	2.82E+01	2.56E+01
Ru-105	1.34E+00	1.87E+01	1.55E+01	7.13E+00	1.70E+00	4.45E-01
Ru-106	9.28E-01	1.59E+01	1.80E+01	1.55E+01	1.28E+01	1.17E+01
Rh-105	1.40E+00	2.39E+01	2.67E+01	2.20E+01	1.61E+01	1.27E+01
Sb-127	2.36E+00	4.01E+01	4.47E+01	3.73E+01	2.91E+01	2.51E+01
Sb-129	6.55E+00	9.09E+01	7.47E+01	3.38E+01	7.76E+00	1.97E+00
Te-127	2.34E+00	4.02E+01	4.54E+01	3.87E+01	3.14E+01	2.80E+01
Te-127m	4.02E-01	6.90E+00	7.81E+00	6.71E+00	5.57E+00	5.09E+00
Te-129	6.62E+00	1.02E+02	9.40E+01	5.10E+01	2.54E+01	1.70E+01
Te-129m	1.31E+00	2.26E+01	2.56E+01	2.19E+01	1.81E+01	1.64E+01

Table 35 (Cont'd)
Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage (GNF3 Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Te-131m	4.86E+00	8.09E+01	8.75E+01	6.85E+01	4.72E+01	3.59E+01
Te-132	3.49E+01	5.92E+02	6.59E+02	5.46E+02	4.22E+02	3.60E+02
I-131	7.01E+02	2.78E+03	3.02E+03	2.62E+03	2.19E+03	1.98E+03
I-132	9.05E+02	3.13E+03	2.26E+03	1.01E+03	5.15E+02	4.30E+02
I-133	1.43E+03	5.45E+03	5.57E+03	4.29E+03	2.82E+03	2.01E+03
I-134	9.90E+02	1.37E+03	3.09E+02	1.15E+01	1.77E-02	2.95E-05
I-135	1.29E+03	4.46E+03	3.95E+03	2.29E+03	8.48E+02	3.41E+02
Xe-133	5.88E+03	1.52E+05	4.75E+05	9.12E+05	1.30E+06	1.40E+06
Xe-135	2.94E+03	7.32E+04	2.03E+05	2.95E+05	2.40E+05	1.46E+05
Cs-134	1.92E+02	6.66E+02	6.97E+02	5.69E+02	4.36E+02	3.82E+02
Cs-136	5.61E+01	1.94E+02	2.02E+02	1.63E+02	1.23E+02	1.06E+02
Cs-137	1.55E+02	5.36E+02	5.62E+02	4.58E+02	3.52E+02	3.08E+02
Ba-139	1.36E+01	1.19E+02	4.93E+01	5.67E+00	8.42E-02	1.38E-03
Ba-140	1.84E+01	3.15E+02	3.55E+02	3.02E+02	2.46E+02	2.21E+02
La-140	2.19E-01	7.55E+00	1.96E+01	3.56E+01	5.75E+01	7.46E+01
La-141	1.54E-01	2.09E+00	1.66E+00	7.06E-01	1.43E-01	3.18E-02
La-142	1.26E-01	1.19E+00	5.47E-01	7.79E-02	1.77E-03	4.44E-05
Ce-141	4.33E-01	7.44E+00	8.41E+00	7.20E+00	5.94E+00	5.39E+00
Ce-143	4.18E-01	6.99E+00	7.59E+00	5.99E+00	4.20E+00	3.25E+00
Ce-144	3.48E-01	5.97E+00	6.76E+00	5.81E+00	4.81E+00	4.40E+00
Pr-143	1.67E-01	2.88E+00	3.28E+00	2.84E+00	2.40E+00	2.21E+00
Nd-147	6.75E-02	1.16E+00	1.30E+00	1.11E+00	8.99E-01	8.05E-01
Np-239	5.01E+00	8.47E+01	9.36E+01	7.66E+01	5.76E+01	4.77E+01
Pu-238	1.54E-03	2.65E-02	3.00E-02	2.58E-02	2.14E-02	1.95E-02
Pu-239	1.34E-04	2.31E-03	2.61E-03	2.24E-03	1.86E-03	1.70E-03
Pu-240	2.49E-04	4.28E-03	4.85E-03	4.17E-03	3.46E-03	3.16E-03
Pu-241	5.34E-02	9.17E-01	1.04E+00	8.92E-01	7.40E-01	6.76E-01
Am-241	3.86E-05	6.63E-04	7.51E-04	6.46E-04	5.37E-04	4.92E-04
Cm-242	9.43E-03	1.62E-01	1.83E-01	1.57E-01	1.30E-01	1.19E-01
Cm-244	6.59E-04	1.13E-02	1.28E-02	1.10E-02	9.14E-03	8.35E-03

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE3CL395_GNF3.o0

Table 36
Post-LOCA Reactor Building Isotopic Inventory - ESF Leakage (GNF3 Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) ESF Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
I-131	2.69E+01	3.05E+02	8.71E+02	1.65E+03	2.39E+03	2.62E+03
I-132	3.46E+01	3.10E+02	5.24E+02	3.07E+02	4.12E+01	4.18E+00
I-133	5.49E+01	5.97E+02	1.61E+03	2.71E+03	3.09E+03	2.67E+03
I-134	3.80E+01	1.50E+02	8.92E+01	7.26E+00	1.93E-02	3.91E-05
I-135	4.94E+01	4.88E+02	1.14E+03	1.44E+03	9.28E+02	4.52E+02
Xe-133	1.28E-01	4.02E+00	2.70E+01	1.11E+02	3.06E+02	4.58E+02
Xe-135	1.40E+00	3.99E+01	2.33E+02	7.22E+02	1.13E+03	9.67E+02

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run DRE3ES395_GNF3.o0

Table 37
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages (GNF3 Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Co-58	6.93E-03	1.19E-01	1.35E-01	1.16E-01	9.55E-02	8.70E-02	5.59E-01
Co-60	8.30E-03	1.43E-01	1.61E-01	1.39E-01	1.15E-01	1.05E-01	6.71E-01
Kr-85	6.23E+01	1.62E+03	5.10E+03	1.00E+04	1.49E+04	1.67E+04	4.85E+04
Kr-85m	9.02E+02	1.90E+04	4.41E+04	4.66E+04	2.01E+04	6.55E+03	1.37E+05
Kr-87	1.41E+03	1.76E+04	1.87E+04	4.15E+03	7.90E+01	1.13E+00	4.20E+04
Kr-88	2.33E+03	4.36E+04	8.45E+04	6.25E+04	1.32E+04	2.10E+03	2.08E+05
Rb-86	1.67E+00	5.79E+00	6.05E+00	4.90E+00	3.72E+00	3.22E+00	2.53E+01
Sr-89	1.25E+01	2.14E+02	2.42E+02	2.07E+02	1.71E+02	1.56E+02	1.00E+03
Sr-90	1.69E+00	2.91E+01	3.29E+01	2.83E+01	2.35E+01	2.15E+01	1.37E+02
Sr-91	1.47E+01	2.29E+02	2.24E+02	1.44E+02	6.66E+01	3.40E+01	7.13E+02
Sr-92	1.35E+01	1.65E+02	1.12E+02	3.46E+01	3.70E+00	4.38E-01	3.29E+02
Y-90	1.94E-02	5.54E-01	1.28E+00	2.23E+00	3.63E+00	4.82E+00	1.25E+01
Y-91	1.57E-01	2.73E+00	3.19E+00	2.87E+00	2.51E+00	2.36E+00	1.38E+01
Y-92	4.42E-01	2.97E+01	6.67E+01	5.64E+01	1.74E+01	4.27E+00	1.75E+02
Y-93	1.67E-01	2.62E+00	2.59E+00	1.69E+00	8.10E-01	4.28E-01	8.31E+00
Zr-95	1.86E-01	3.20E+00	3.62E+00	3.10E+00	2.56E+00	2.33E+00	1.50E+01
Zr-97	1.74E-01	2.83E+00	2.95E+00	2.15E+00	1.29E+00	8.47E-01	1.02E+01
Nb-95	1.86E-01	3.19E+00	3.61E+00	3.10E+00	2.57E+00	2.35E+00	1.50E+01
Mo-99	2.33E+00	3.94E+01	4.37E+01	3.60E+01	2.74E+01	2.31E+01	1.72E+02
Tc-99m	2.07E+00	3.55E+01	4.00E+01	3.36E+01	2.67E+01	2.31E+01	1.61E+02
Ru-103	2.06E+00	3.53E+01	3.99E+01	3.42E+01	2.82E+01	2.56E+01	1.65E+02
Ru-105	1.34E+00	1.87E+01	1.55E+01	7.13E+00	1.70E+00	4.45E-01	4.48E+01
Ru-106	9.28E-01	1.59E+01	1.80E+01	1.55E+01	1.28E+01	1.17E+01	7.50E+01
Rh-105	1.40E+00	2.39E+01	2.67E+01	2.20E+01	1.61E+01	1.27E+01	1.03E+02
Sb-127	2.36E+00	4.01E+01	4.47E+01	3.73E+01	2.91E+01	2.51E+01	1.79E+02
Sb-129	6.55E+00	9.09E+01	7.47E+01	3.38E+01	7.76E+00	1.97E+00	2.16E+02
Te-127	2.34E+00	4.02E+01	4.54E+01	3.87E+01	3.14E+01	2.80E+01	1.86E+02
Te-127m	4.02E-01	6.90E+00	7.81E+00	6.71E+00	5.57E+00	5.09E+00	3.25E+01
Te-129	6.62E+00	1.02E+02	9.40E+01	5.10E+01	2.54E+01	1.70E+01	2.96E+02
Te-129m	1.31E+00	2.26E+01	2.56E+01	2.19E+01	1.81E+01	1.64E+01	1.06E+02

Table 37 (Cont'd)
Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages (GNF3 Fuel)

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Te-131m	4.86E+00	8.09E+01	8.75E+01	6.85E+01	4.72E+01	3.59E+01	3.25E+02
Te-132	3.49E+01	5.92E+02	6.59E+02	5.46E+02	4.22E+02	3.60E+02	2.61E+03
I-131	7.28E+02	3.09E+03	3.89E+03	4.27E+03	4.58E+03	4.60E+03	2.11E+04
I-132	9.40E+02	3.44E+03	2.78E+03	1.31E+03	5.56E+02	4.34E+02	9.46E+03
I-133	1.49E+03	6.05E+03	7.18E+03	7.00E+03	5.91E+03	4.68E+03	3.23E+04
I-134	1.03E+03	1.53E+03	3.98E+02	1.88E+01	3.70E-02	6.85E-05	2.97E+03
I-135	1.34E+03	4.95E+03	5.09E+03	3.73E+03	1.78E+03	7.94E+02	1.77E+04
Xe-133	5.88E+03	1.52E+05	4.75E+05	9.12E+05	1.30E+06	1.40E+06	4.24E+06
Xe-135	2.94E+03	7.32E+04	2.03E+05	2.96E+05	2.41E+05	1.47E+05	9.63E+05
Cs-134	1.92E+02	6.66E+02	6.97E+02	5.69E+02	4.36E+02	3.82E+02	2.94E+03
Cs-136	5.61E+01	1.94E+02	2.02E+02	1.63E+02	1.23E+02	1.06E+02	8.45E+02
Cs-137	1.55E+02	5.36E+02	5.62E+02	4.58E+02	3.52E+02	3.08E+02	2.37E+03
Ba-139	1.36E+01	1.19E+02	4.93E+01	5.67E+00	8.42E-02	1.38E-03	1.88E+02
Ba-140	1.84E+01	3.15E+02	3.55E+02	3.02E+02	2.46E+02	2.21E+02	1.46E+03
La-140	2.19E-01	7.55E+00	1.96E+01	3.56E+01	5.75E+01	7.46E+01	1.95E+02
La-141	1.54E-01	2.09E+00	1.66E+00	7.06E-01	1.43E-01	3.18E-02	4.79E+00
La-142	1.26E-01	1.19E+00	5.47E-01	7.79E-02	1.77E-03	4.44E-05	1.94E+00
Ce-141	4.33E-01	7.44E+00	8.41E+00	7.20E+00	5.94E+00	5.39E+00	3.48E+01
Ce-143	4.18E-01	6.99E+00	7.59E+00	5.99E+00	4.20E+00	3.25E+00	2.84E+01
Ce-144	3.48E-01	5.97E+00	6.76E+00	5.81E+00	4.81E+00	4.40E+00	2.81E+01
Pr-143	1.67E-01	2.88E+00	3.28E+00	2.84E+00	2.40E+00	2.21E+00	1.38E+01
Nd-147	6.75E-02	1.16E+00	1.30E+00	1.11E+00	8.99E-01	8.05E-01	5.34E+00
Np-239	5.01E+00	8.47E+01	9.36E+01	7.66E+01	5.76E+01	4.77E+01	3.65E+02
Pu-238	1.54E-03	2.65E-02	3.00E-02	2.58E-02	2.14E-02	1.95E-02	1.25E-01
Pu-239	1.34E-04	2.31E-03	2.61E-03	2.24E-03	1.86E-03	1.70E-03	1.09E-02
Pu-240	2.49E-04	4.28E-03	4.85E-03	4.17E-03	3.46E-03	3.16E-03	2.02E-02
Pu-241	5.34E-02	9.17E-01	1.04E+00	8.92E-01	7.40E-01	6.76E-01	4.32E+00
Am-241	3.86E-05	6.63E-04	7.51E-04	6.46E-04	5.37E-04	4.92E-04	3.13E-03
Cm-242	9.43E-03	1.62E-01	1.83E-01	1.57E-01	1.30E-01	1.19E-01	7.61E-01
Cm-244	6.59E-04	1.13E-02	1.28E-02	1.10E-02	9.14E-03	8.35E-03	5.33E-02

Containment Leakage RB Inventory From Table 35 and ESF Leakage RB Inventory From Table 36

Table 38
Post-LOCA Containment Shine Integrated Gamma Dose (GNF3 Fuel)

Post-LOCA Period t (hr)	Control Room Gamma Dose Rate (mrem/hr)	Control Room Integrated Gamma Dose (w/o CROF) (mrem)	Control Room Occupancy Factor (unitless)	Control Room Integrated Gamma Dose (with CROF) (mrem)	Control Room Cumulative Gamma Dose (mrem)	MicroShield Run No.
0.667	1.37E+00	4.57E-01	1	4.57E-01	4.57E-01	DRE667_GNF3.MSD
2	1.86E+01	1.33E+01	1	1.33E+01	1.38E+01	DRE2_GNF3.MSD
4	3.11E+01	4.97E+01	1	4.97E+01	6.34E+01	DRE4_GNF3.MSD
8	2.05E+01	1.03E+02	1	1.03E+02	1.67E+02	DRE8_GNF3.MSD
16	4.32E+00	9.93E+01	1	9.93E+01	2.66E+02	DRE16_GNF3.MSD
24	8.13E-01	2.05E+01	1	2.05E+01	2.86E+02	DRE24_GNF3.MSD
96	8.13E-01	5.85E+01	0.6	3.51E+01	3.22E+02	DRE24_GNF3.MSD
720	8.13E-01	5.07E+02	0.4	2.03E+02	5.24E+02	DRE24_GNF3.MSD
720-hrs Cumulative Gamma Dose					**5.24E+02**	

Table 39
Steam Line Temperature Vs. Time

Time (hrs)	Temperature	
	^{o}K	^{o}F
0	565.3	557.9
1	561.1	550.3
2	557.0	542.9
3	552.9	535.5
4	548.9	528.3
5	545.0	521.2
6	541.1	514.3
7	537.3	507.4
8	533.5	500.6
9	529.8	494.0
10	526.2	487.4
11	522.6	481.0
12	519.1	474.6
13	515.6	468.4
14	512.2	462.2
15	508.8	456.2
16	505.5	450.2
17	502.3	444.4
18	499.0	438.6
19	495.9	432.9
20	492.8	427.4
21	489.7	421.9
22	486.7	416.5
23	483.8	411.1
24	480.9	405.9
48	423.3	302.2
72	384.0	231.5
96	357.2	183.3
240	305.5	90.2
480	299.8	80.0

Extrapolated Temperature Information From Reference 9.31, Figure 7

Table 40
MSIV Failed & Intact Steam Line Volumes For Elemental Iodine Removal Efficiency Calculation

Piping Segment ID	MSIV Failed Line Volume $(ft^3)/(m^3)$ V_1 A	Intact Line 1		Intact Line 2	
		Volume $(ft^3)/(m^3)$ V_2 B	Volume $(ft^3)/(m^3)$ V_3 C	Volume $(ft^3)/(m^3)$ V_4 D	Volume $(ft^3)/(m^3)$ V_5 E
Steam Line Between RPV Nozzle & outboard MSIV	200.24	152.93	49.11	163.75	49.11
	5.67	4.33	1.39	4.64	1.39

A = 200.24 ft^3 / $(3.28)^3$ ft^3/m^3 = 5.67 m^3 (Section 7.3.1)

B = 152.93 ft^3 / $(3.28)^3$ ft^3/m^3 = 4.33 m^3 (Section 7.3.2)

C = 49.11 ft^3 / $(3.28)^3$ ft^3/m^3 = 1.39 m^3 (Section 7.3.2)

D = 163.75 ft^3 / $(3.28)^3$ ft^3/m^3 = 4.33 m^3 (Section 7.3.3)

E = 49.11 ft^3 / $(3.28)^3$ ft^3/m^3 = 4.33 m^3 (Section 7.3.3)

Table 41
MSIV Failed & Intact Steam Line Surface Areas For Elemental Iodine Removal Efficiency Calculation

Piping Segment ID	MSIV Failed Line Surface Area $(ft^2)/(m^2)$ V_1 A	Intact Line 1		Intact Line 2	
		Surface Area $(ft^2)/(m^2)$ V_2 B	Surface Area $(ft^2)/(m^2)$ V_3 C	Surface Area $(ft^2)/(m^2)$ V_4 D	Surface Area $(ft^2)/(m^2)$ V_5 E
Steam Line Between Nozzle & outboard MSIV	236.66 22.00	108.39 10.07	133.17 12.38	132.92 12.35	133.17 12.38

A = π* D * L = 3.14 * 75.37 ft^2 = 236.66 ft^2 /$(3.28)^2$ ft^2/m^2 = 22.00 m^2 (Section 7.3.1)

B = π * D * L = 3.14 * 34.52 ft^2 = 108.39 ft^2 /$(3.28)^2$ ft^2/m^2 =10.07 m^2 (Section 7.3.2)

C = π * D * L = 3.14 * 42.41 ft^2 = 133.17 ft^2 /$(3.28)^2$ ft^2/m^2 = 12.38 m^2 (Section 7.3.2)

D = π * D * L = 3.14 * 42.33 ft^2 = 132.92 ft^2 /$(3.28)^2$ ft^2/m^2 = 12.35 m^2 (Section 7.3.3)

E = π * D * L = 3.14 * 42.41 ft^2 = 133.17 ft^2 /$(3.28)^2$ ft^2/m^2 = 12.38 m^2 (Section 7.3.3)

Table 42
Elemental Iodine Deposition Velocity - MSIV Leakage

Time	Temp Degree K* A	Temp Degree F B	(2809/T) - 12.5 C	Deposition Velocity cm/sec D = EXP[C]	Deposition Velocity m/sec E = D / 100
0	565.3	557.9	-7.53	0.000536	5.362E-06
8	533.5	500.6	-7.23	0.000721	7.211E-06
24	480.9	405.9	-6.66	0.001283	1.283E-05
48	423.3	302.2	-5.86	0.002841	2.841E-05
72	384.0	231.5	-5.18	0.005602	5.602E-05
96	357.2	183.3	-4.64	0.009697	9.697E-05
240	305.5	90.2	-3.30	0.036701	3.670E-04
480	299.8	80.0	-3.13	0.043664	4.366E-04
720					

A & B From Table 39

C From Reference 9.31, page 12 and Reference 9.2, page 212

Table 43
Elemental Iodine Deposition Rate - MSIV Failed Line Volume V_1

Time Hr	Deposition Velocity m/sec A	Main Steam Line Total Surface Area (m^2) B	Main Steam Line Total Volume (m^3) C	Elemental Iodine Removal Rate (hr^{-1}) D = (AxB)x3600/C	Elemental Iodine Deposition Efficiency E
0	5.362E-06	22.00	5.67	0.0749	0.0722
8	7.211E-06	22.00	5.67	0.1007	0.0958
24	1.283E-05	22.00	5.67	0.1792	0.1641
48	2.841E-05	22.00	5.67	0.3968	0.3276
72	5.602E-05	22.00	5.67	0.7825	0.5427
96	9.697E-05	22.00	5.67	1.3545	0.7419
240	3.670E-04	22.00	5.67	5.1265	0.9941
480	4.366E-04	22.00	5.67	6.0990	0.9978
720					

A From Table 42

B & C From Tables 40 & 41

E = 1 - exp(-D * 1 hour)

Table 44
Elemental Iodine Deposition Rate - Intact Steam Line Volume V_2

Time Hr	Deposition Velocity m/sec A*	Main Steam Line		Elemental Iodine Removal Rate (hr^{-1}) D = (AxB)x3600/C	Elemental Iodine Deposition Efficiency E
		Total Surface Area (m^2) B	Total Volume (m^3) C		
0	5.362E-06	10.07	4.33	0.0449	0.0439
8	7.211E-06	10.07	4.33	0.0604	0.0586
24	1.283E-05	10.07	4.33	0.1074	0.1019
48	2.841E-05	10.07	4.33	0.2379	0.2117
72	5.602E-05	10.07	4.33	0.4690	0.3744
96	9.697E-05	10.07	4.33	0.8119	0.5560
240	3.670E-04	10.07	4.33	3.0727	0.9537
480	4.366E-04	10.07	4.33	3.6556	0.9742
720					

A From Table 42
B & C From Tables 40 & 41
E = 1 - exp(-D * 1 hour)

Table 45
Elemental Iodine Deposition Rate - Intact Steam Line Volumes V_3 & V_5

Time Hr	Deposition Velocity m/sec A*	Main Steam Line		Elemental Iodine Removal Rate (hr^{-1}) D = (AxB)x3600/C	Elemental Iodine Deposition Efficiency E
		Total Surface Area (m^2) B	Total Volume (m^3) C		
0	5.362E-06	12.38	1.39	0.1719	0.1580
8	7.211E-06	12.38	1.39	0.2312	0.2064
24	1.283E-05	12.38	1.39	0.4114	0.3373
48	2.841E-05	12.38	1.39	0.9109	0.5978
72	5.602E-05	12.38	1.39	1.7961	0.8341
96	9.697E-05	12.38	1.39	3.1092	0.9554
240	3.670E-04	12.38	1.39	11.7676	1.0000
480	4.366E-04	12.38	1.39	14.0000	1.0000
720					

A From Table 42
B & C From Tables 40 & 41
E = 1 - exp(-D * 1 hour)

Table 46
Elemental Iodine Deposition Rate - Intact Steam Line
Volume V4

Time Hr	Deposition Velocity m/sec A*	Main Steam Line Total Surface Area (m^2) B	Main Steam Line Total Volume (m^3) C	Elemental Iodine Removal Rate (hr^{-1}) D = (AxB)x3600/C	Elemental Iodine Deposition Efficiency E
0	5.362E-06	10.07	4.64	0.0419	0.0410
8	7.211E-06	10.07	4.64	0.0563	0.0548
24	1.283E-05	10.07	4.64	0.1003	0.0954
48	2.841E-05	10.07	4.64	0.2220	0.1991
72	5.602E-05	10.07	4.64	0.4377	0.3545
96	9.697E-05	10.07	4.64	0.7576	0.5312
240	3.670E-04	10.07	4.64	2.8674	0.9432
480	4.366E-04	10.07	4.64	3.4114	0.9670
720					

A From Table 42
B & C From Tables 40 & 41
E = 1 - exp(-D * 1 hour)

Table 47
Elemental Iodine Resuspension Rate - MSIV Leakage

Post-LOCA Time (hr)	Temp Degree F	Temp Degree K	-600/T	Resuspension Rate (hr^{-1})	Resuspension Efficiency E
0	557.9	565.3	-1.06	0.0538	0.0524
8	500.6	533.5	-1.12	0.0505	0.0493
24	405.9	480.9	-1.25	0.0447	0.0437
48	302.2	423.3	-1.42	0.0377	0.0370
72	231.5	384.0	-1.56	0.0326	0.0321
96	183.3	357.2	-1.68	0.0290	0.0286
240	90.2	305.5	-1.96	0.0218	0.0216
480	80.0	299.8	-2.00	0.0210	0.0208
720					

Resuspension Rate $(sec)^{-1}$ = 2.32 (± 2.00) x 10^{-5} $e^{-600/T}$ = 4.32 x 10^{-5} $e^{-600/T}$
Resuspension Rate $(hr)^{-1}$ = 4.32 x 3600 x 10^{-5} $e^{-600/T}$
E = 1 - exp(- resuspension rate * 1 hour)

Table 48
Net Elemental Iodine Removal Efficiency - MSIV Failed Line
Volume V_1

Post-LOCA Time (hr)	Temp Degree (F)	Elemental Iodine Deposition Efficiency A	Elemental Iodine Resuspension Efficiency B	Elemental Iodine Net Deposition Efficiency (%) C
0	557.9	0.0722	0.0524	6.84%
8	500.6	0.0958	0.0493	9.11%
24	405.9	0.1641	0.0437	15.69%
48	302.2	0.3276	0.0370	31.54%
72	231.5	0.5427	0.0321	52.53%
96	183.3	0.7419	0.0286	72.07%
240	90.2	0.9941	0.0216	97.26%
480*	80.0	0.9978	0.0208	97.70%
720				

A From Table 43
B From Table 47
C = [A - (A*B)] * 100%

*The 240 hour removal efficiency is conservatively used between the 240-720 hour time period

Table 49
Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V_2

Post-LOCA Time (hr)	Temp Degree (F)	Elemental Iodine Deposition Efficiency A	Elemental Iodine Resuspension Efficiency B	Elemental Iodine Net Deposition Efficiency (%) C
0	557.9	0.0439	0.0524	4.16%
8	500.6	0.0586	0.0493	5.57%
24	405.9	0.1019	0.0437	9.74%
48	302.2	0.2117	0.0370	20.39%
72	231.5	0.3744	0.0321	36.24%
96	183.3	0.5560	0.0286	54.01%
240	90.2	0.9537	0.0216	93.31%
480	80.0	0.9742	0.0208	95.39%
720				

A From Table 44
B From Table 47
C = [A - (A*B)] * 100%

Table 50
Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V_3 & V_5

Post-LOCA Time (hr)	Temp Degree (F)	Elemental Iodine Deposition Efficiency A	Elemental Iodine Resuspension Efficiency B	Elemental Iodine Net Deposition Efficiency (%) C
0	557.9	0.1580	0.0524	14.97%
8	500.6	0.2064	0.0493	19.63%
24	405.9	0.3373	0.0437	32.26%
48	302.2	0.5978	0.0370	57.57%
72	231.5	0.8341	0.0321	80.73%
96	183.3	0.9554	0.0286	92.81%
240	90.2	1.0000	0.0216	97.84%
480	80.0	1.0000	0.0208	97.92%
720				

A From Table 45
B From Table 47
C = [A - (A*B)] * 100%

Table 51
Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V4

Post-LOCA Time (hr)	Temp Degree (F)	Elemental Iodine Deposition Efficiency A	Elemental Iodine Resuspension Efficiency B	Elemental Iodine Net Deposition Efficiency (%) C
0	557.9	0.0410	0.0524	3.89%
8	500.6	0.0548	0.0493	5.21%
24	405.9	0.0954	0.0437	9.12%
48	302.2	0.1991	0.0370	19.17%
72	231.5	0.3545	0.0321	34.31%
96	183.3	0.5312	0.0286	51.60%
240	90.2	0.9432	0.0216	92.28%
480	80.0	0.9670	0.0208	94.69%
720				

A From Table 46
B From Table 47
C = [A - (A*B)] * 100%

11.0 FIGURES

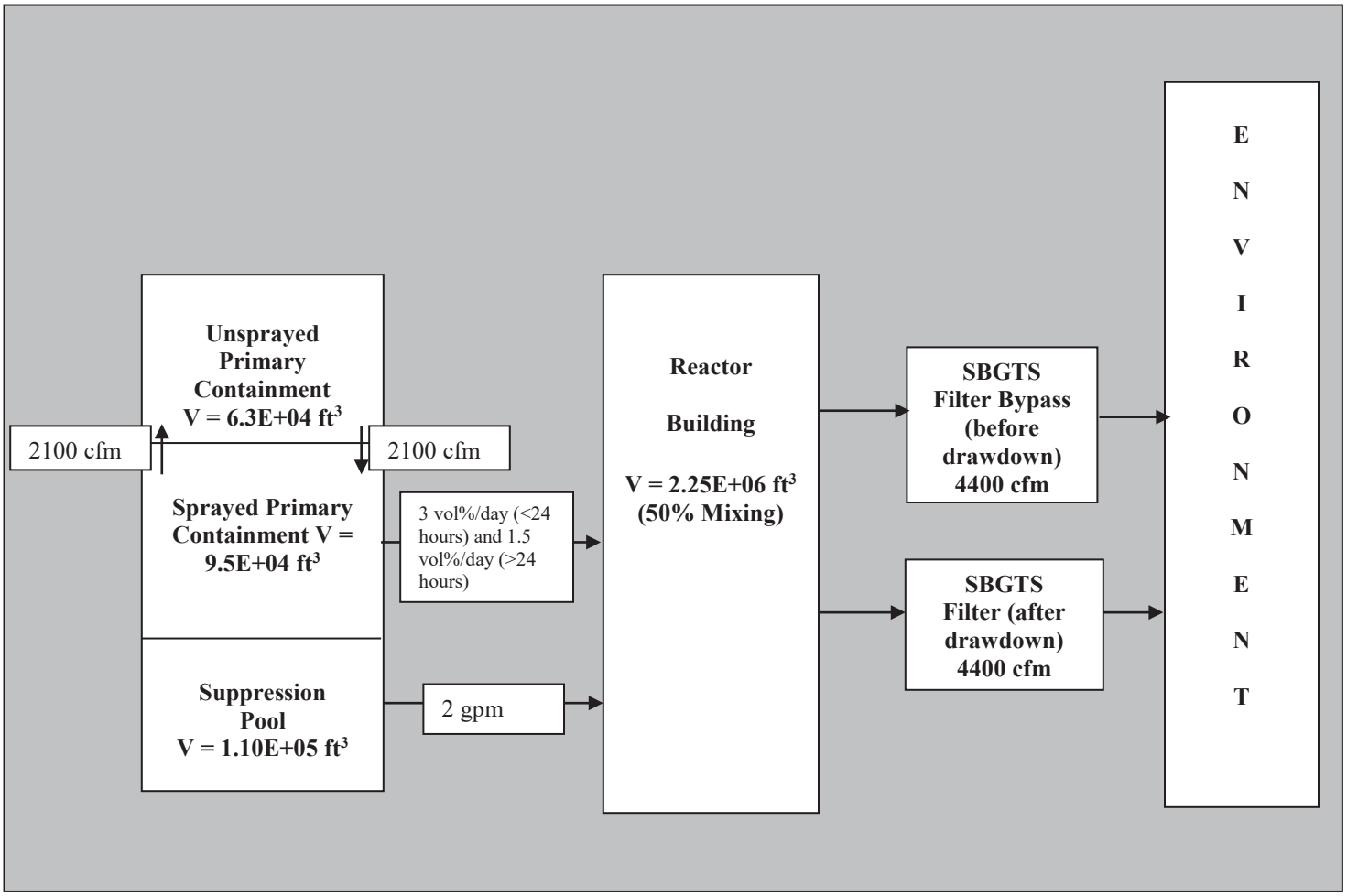


Figure 1: Containment & ESF Leakage RADTRAD Nodalization

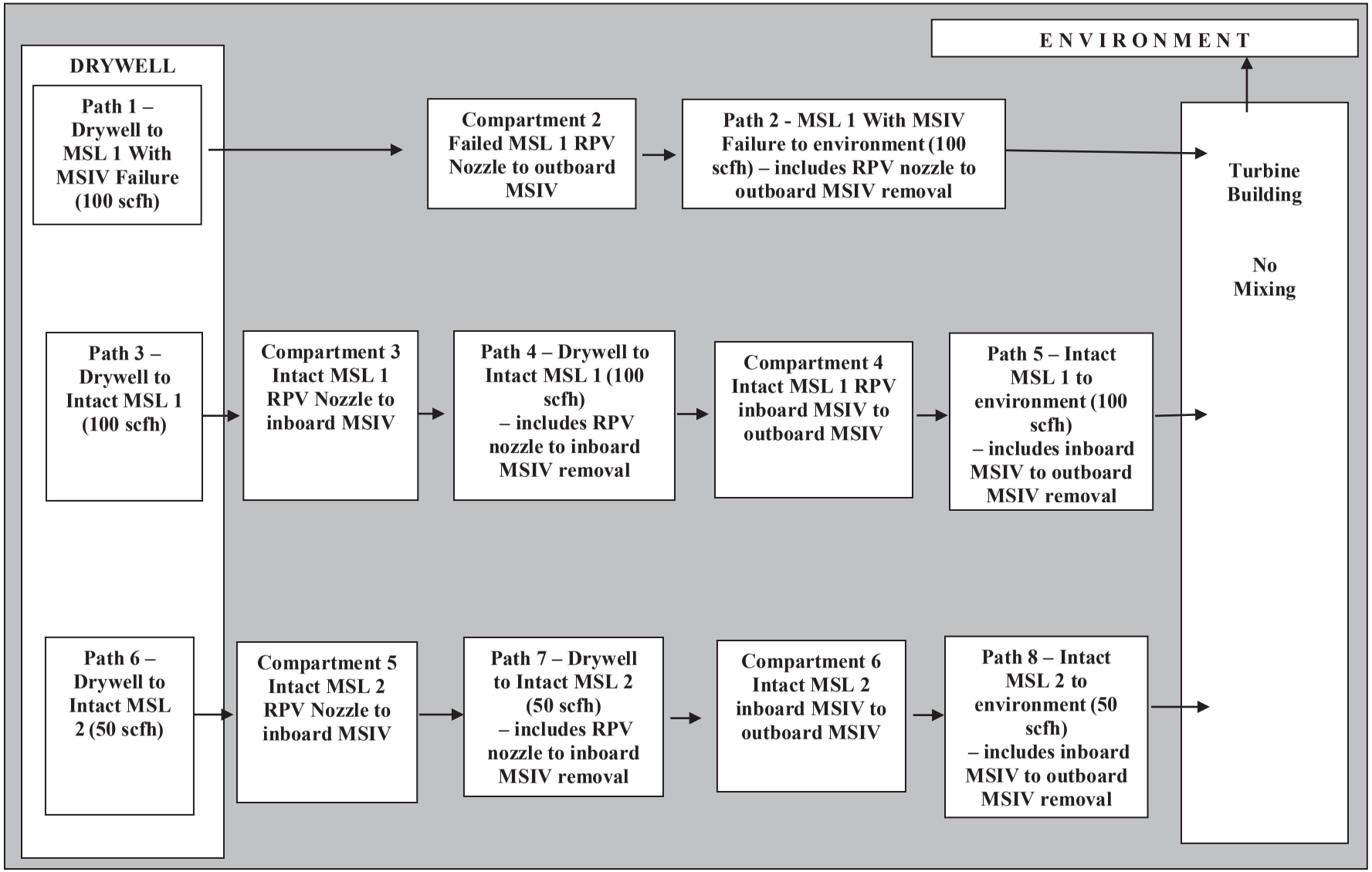


Figure 2: MSIV Leakage RADTRAD Nodalization

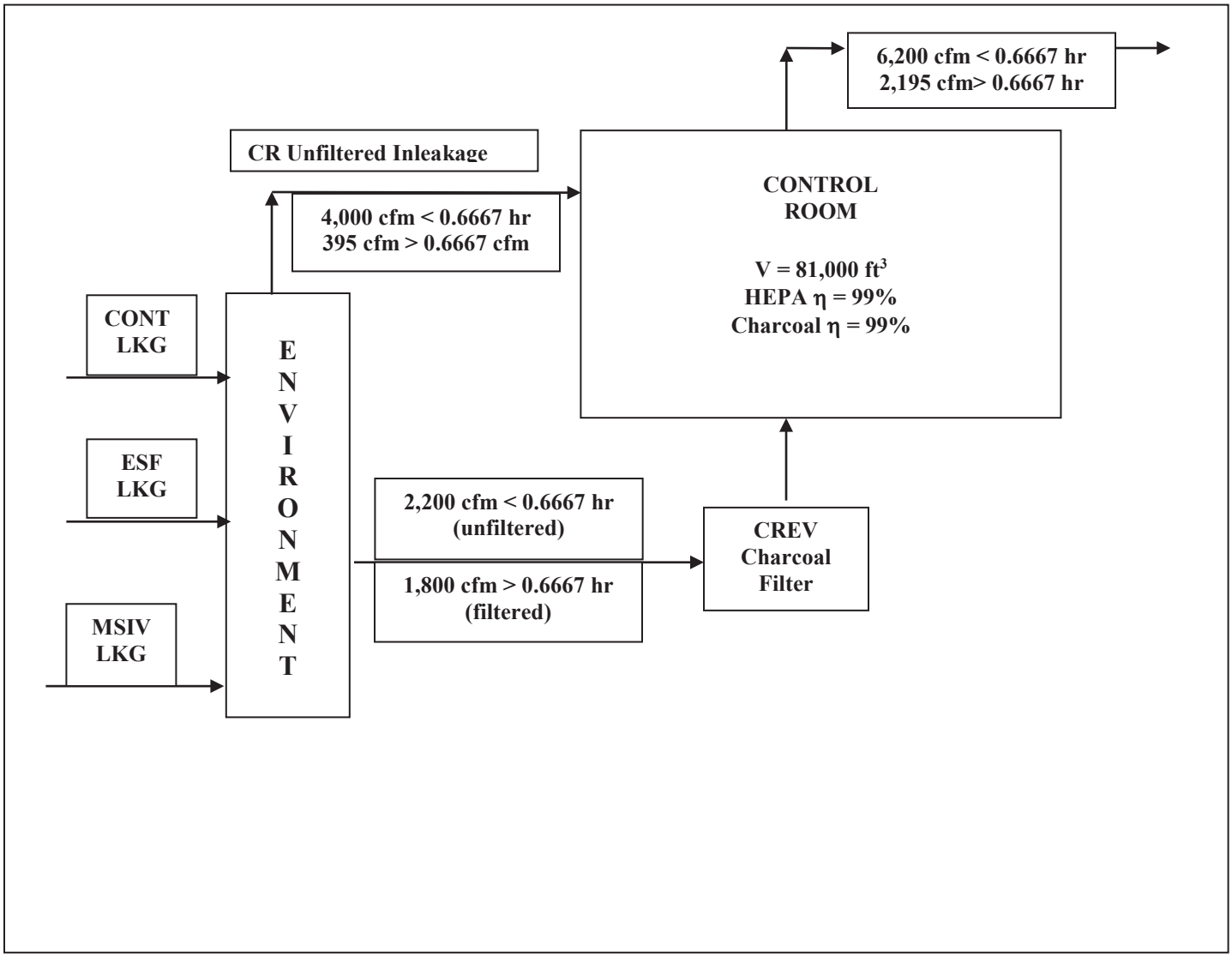
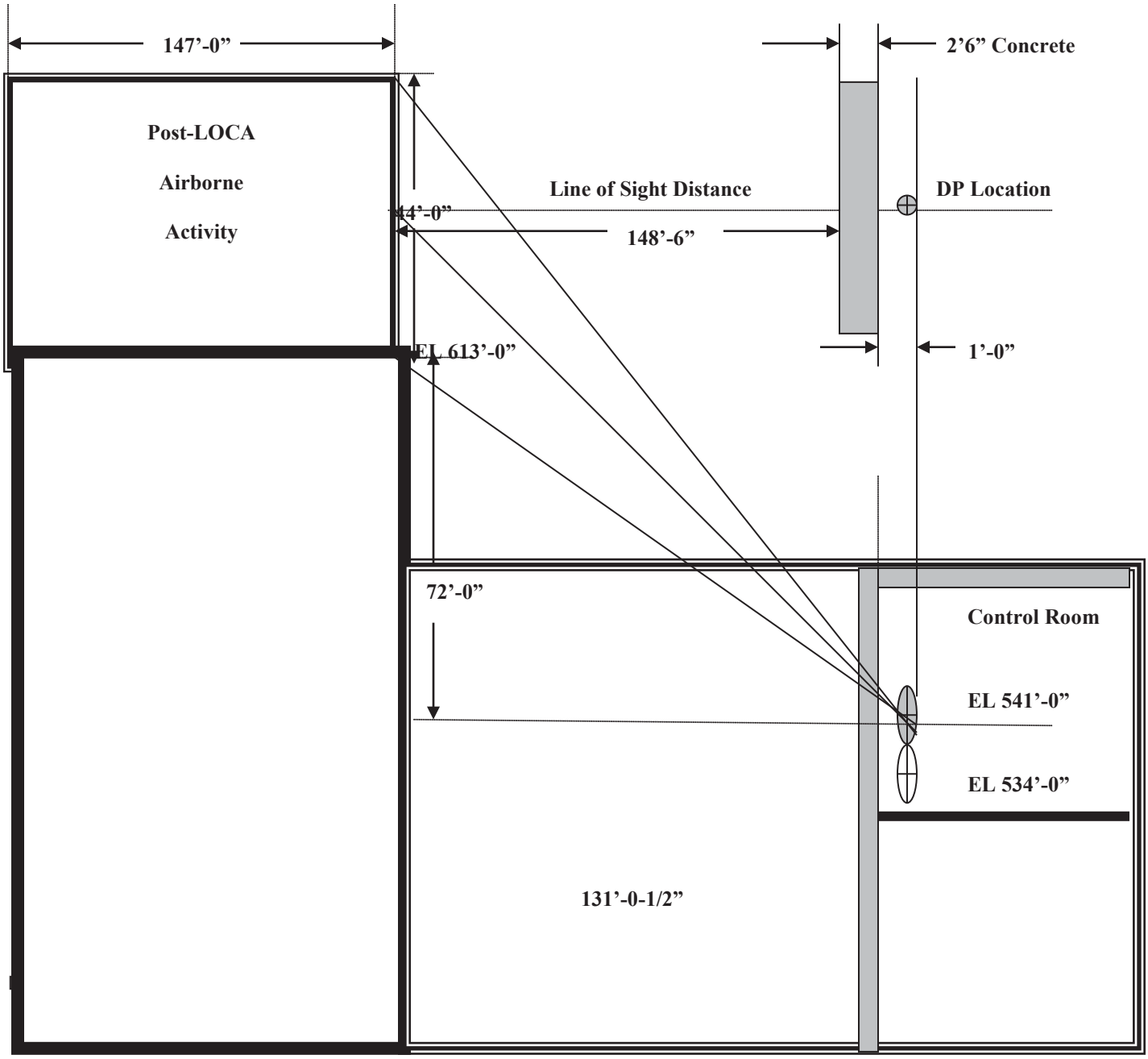


Figure 3 – Dresden Control Room RADTRAD Nodalization



DP = Dose Point

Figure 4: Elevation View of Containment Shine Shielding Geometry Looking @ West

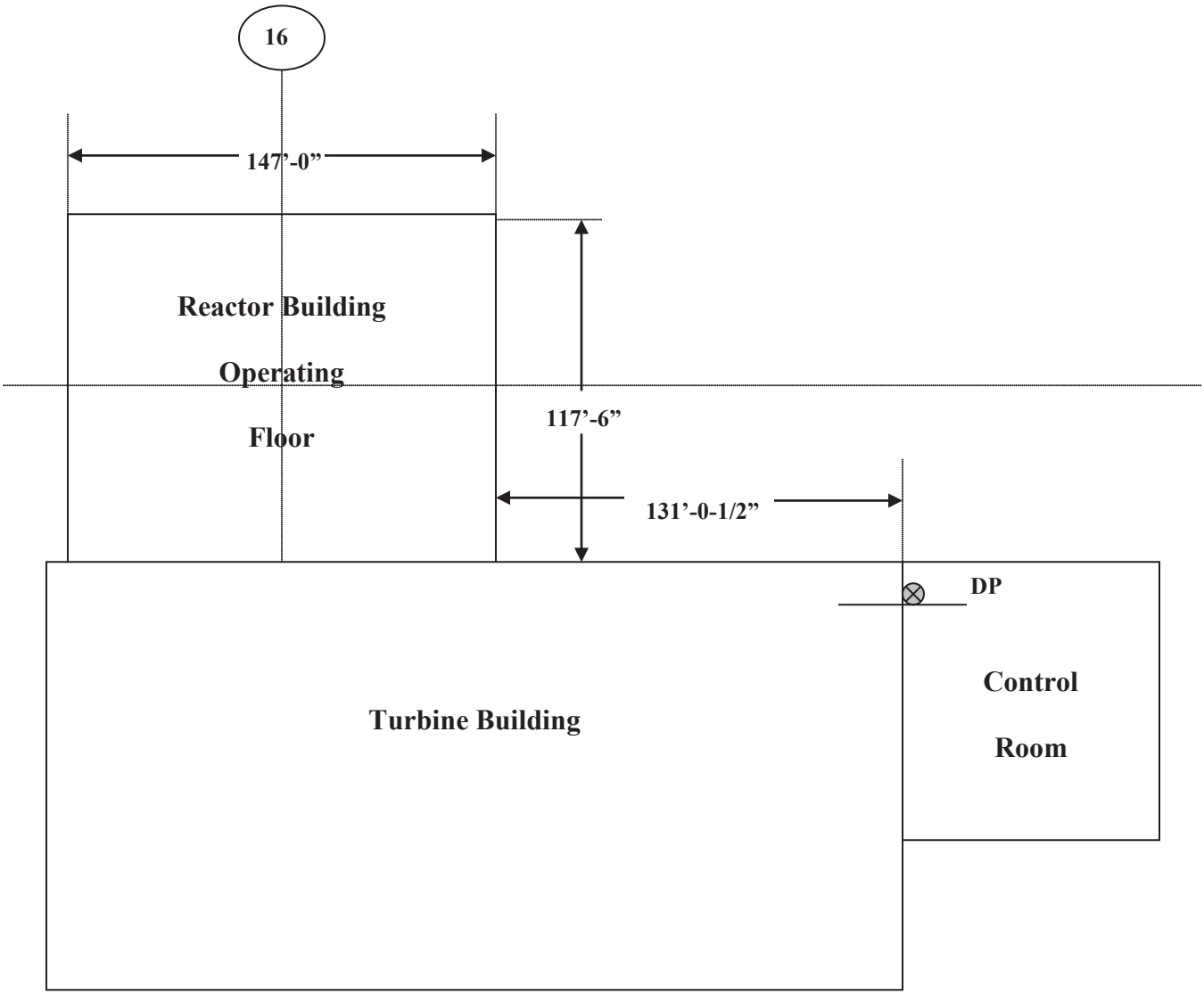


Figure 5: Plan View of Containment Shine Shielding Geometry

12.0 ATTACHMENTS

Attachment 12.1a - RADTRAD Output File “DRE3CL395_Fram.o0” (Framatome Fuel)
Attachment 12.2a - RADTRAD Output File “DRE3ES395_Fram.o0” (Framatome Fuel)
Attachment 12.3a - RADTRAD Output File “DRE3MS395_Fram.o0” (Framatome Fuel)
Attachment 12.4a - RADTRAD Output File “DRE3MS11_Fram.o0” (Framatome Fuel)
Attachment 12.5a - RADTRAD Output File “DRE3MS395_Spray_Fram.o0” (Framatome Fuel)
Attachment 12.6a - RADTRAD Nuclide Inventory File “DQLOCA_ATRIUM_DEF.nif (Framatome Fuel)
Attachment 12.7a - RADTRAD Release Fraction and Timing File (generic input data)
Attachment 12.8a – MicroShield Output Files (Framatome Fuel)

Attachment 12.1b - RADTRAD Output File “DRE3CL395_West.o0” (Westinghouse Fuel)
Attachment 12.2b - RADTRAD Output File “DRE3ES395_West.o0” (Westinghouse Fuel)
Attachment 12.3b - RADTRAD Output File “DRE3MS395_West.o0” (Westinghouse Fuel)
Attachment 12.4b - RADTRAD Output File “DRE3MS11_West.o0” (Westinghouse Fuel)
Attachment 12.5b - RADTRAD Output File “DRE3MS395_Spray_West .o0” (Westinghouse Fuel)
Attachment 12.6b- RADTRAD Nuclide Inventory File “DQ39GWD_DEF.nif (Westinghouse Fuel)
Attachment 12.7b – MicroShield Output Files (Westinghouse Fuel)

Attachment 12.1c - RADTRAD Output File “DRE3CL395_GNF3.o0” (GNF3 Fuel)
Attachment 12.2c - RADTRAD Output File “DRE3ES395_ GNF3.o0” (GNF3 Fuel)
Attachment 12.3c - RADTRAD Output File “DRE3MS395_ GNF3.o0” (GNF3 Fuel)
Attachment 12.4c - RADTRAD Output File “DRE3MS11_ GNF3.o0” (GNF3 Fuel)
Attachment 12.5c - RADTRAD Output File “DRE3MS395_Spray_ GNF3.o0” (GNF3 Fuel)
Attachment 12.6c- RADTRAD Nuclide Inventory File “DQLOCA_GNF3.nif (GNF3 Fuel)
Attachment 12.7c – MicroShield Output Files (GNF3 Fuel)

Attachment 12.1a - RADTRAD Output File "DRE3CL395_Fram.o0" (Framatome Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:52
 ######################################################################

 ######################################################################
                     File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3CL395_Fram.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3  Containment Leakage - Fuel Burnup = 39 GWD/MTU, Containment Leakage = 3 %/day,
CREV Initiated @ 40 Minutes, Reduction In Containment Leakage After 24 hrs, and CR Unfiltered
Inleakage = 4,000 cfm < 0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   5
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 5:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
Sprayed Drywell to Reactor Building
  1
  2
  4
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
Pathway 6:
Sprayed Drywell to Unsprayed Drywell
  1
  5
  2
Pathway 7:
Unsprayed Drywell to Sprayed Drywell
  5
  1
  2
Pathway 8:
UnSprayed Drywell to Reactor Building
  5
  2
  4
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
```

```
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  5
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
```

```
  0
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

```
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
  8.0000E+00   2.3400E-06
```

```
  2.4000E+01   9.3900E-07
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
  8
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3CL395_Fram.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:52
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   5
```

```
Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number   7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Sprayed Drywell to Reactor Building
   Exit Pathway Number    6: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Sprayed Drywell to Reactor Building
   Inlet Pathway Number   8: UnSprayed Drywell to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
   Exit Pathway Number    5: Control Room Exhaust to Environment

Compartment number  5
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number    7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    8: UnSprayed Drywell to Reactor Building

Total number of pathways =   8
```

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#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:52
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.371E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.575E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.021E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.653E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.858E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.034E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.483E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.875E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        6.363E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.542E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   6.764E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.356E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   1.883E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   5.106E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.593E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   4.078E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.289E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.481E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   4.211E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.349E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.514E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   2.666E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.774E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.642E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.774E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.006E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.443E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.024E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.880E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.831E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.377E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.653E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.361E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   4.045E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.222E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.664E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   5.404E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.813E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.666E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.879E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.504E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.100E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.238E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: Reactor Building

Compartment number   3: Environment

Compartment number   4: Control Room

Compartment number   5: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Sprayed Drywell to Reactor Building

     Convection Data
      Time (hr)          Flow Rate (% / day)
       0.0000E+00              0.0000E+00
       3.3300E-02              3.0000E+00
       2.4000E+01              1.5000E+00
       7.2000E+02              0.0000E+00

Pathway number  2: Reactor Building to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       4.1700E-01    4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  3: Filtered Intake to Control Room

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       2.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       4.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       8.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: UnSprayed Drywell to Reactor Building

Convection Data

Time (hr)	Flow Rate (% / day)
0.0000E+00	0.0000E+00
3.3300E-02	3.0000E+00
2.4000E+01	1.5000E+00
7.2000E+02	0.0000E+00

LOCATION DATA

```
     Location Exclusion Area Boundary     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       4.1700E-01          8.7400E-05
       5.0000E-01          6.7400E-06
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Low Population Zone     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       4.1700E-01          1.5500E-05
       5.0000E-01          8.3000E-06
       2.0000E+00          3.5700E-06
       8.0000E+00          2.3400E-06
       2.4000E+01          9.3900E-07
       9.6000E+01          2.5300E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       8.0000E+00                1.8000E-04
       2.4000E+01                2.3000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   4

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:52
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.3660E+22  0.0000E+00
Elemental I (atoms)    6.2046E+20  0.0000E+00
Organic I (atoms)      1.9189E+19  0.0000E+00
Aerosols (kg)          6.5728E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3741E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7574E-04
Total I (Ci)                                   2.2785E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0830E+21
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Elemental I (atoms)    0.0000E+00  1.3804E+19
Organic I (atoms)      0.0000E+00  4.2693E+17
Aerosols (kg)          0.0000E+00  1.4618E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5636E+19
Elemental I (atoms)    0.0000E+00  3.0240E+17
Organic I (atoms)      0.0000E+00  9.3526E+15
Aerosols (kg)          0.0000E+00  3.2026E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0559E-04  1.0978E-01  5.3641E-03
Accumulated dose (rem)  6.0559E-04  1.0978E-01  5.3641E-03

Low Population Zone Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.3454E-05  1.1503E-02  5.6205E-04
Accumulated dose (rem)  6.3454E-05  1.1503E-02  5.6205E-04

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
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Delta dose (rem)        9.2792E-06  4.3395E-02  1.8902E-03
Accumulated dose (rem)  9.2792E-06  4.3395E-02  1.8902E-03

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.0719E+04  5.2810E-02  3.7415E+23  2.5021E+17
Kr-85m                 3.0067E+05  3.6535E-05  2.5885E+20  3.6637E+18
Kr-87                  5.6482E+05  1.9940E-05  1.3803E+20  7.0416E+18
Kr-88                  8.2478E+05  6.5776E-05  4.5012E+20  1.0103E+19
Rb-86                  2.3285E+03  2.8617E-05  2.0039E+20  2.8121E+16
I-131                  1.2153E+06  9.8027E-03  4.5064E+22  1.4679E+19
I-132                  1.7239E+06  1.6701E-04  7.6195E+20  2.1012E+19
I-133                  2.4966E+06  2.2039E-03  9.9791E+21  3.0208E+19
I-134                  2.4391E+06  9.1432E-05  4.1091E+20  3.0853E+19
I-135                  2.3481E+06  6.6863E-04  2.9827E+21  2.8530E+19
Xe-133                 2.4047E+06  1.2847E-02  5.8169E+22  2.9038E+19
Xe-135                 8.3033E+05  3.2515E-04  1.4504E+21  9.9553E+18
Cs-134                 3.0701E+05  2.3729E-01  1.0664E+24  3.7075E+18
Cs-136                 8.3755E+04  1.1428E-03  5.0603E+21  1.0116E+18
Cs-137                 2.4349E+05  2.7993E+00  1.2305E+25  2.9404E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.3462E+23  0.0000E+00
Elemental I (atoms)    2.8711E+21  0.0000E+00
Organic I (atoms)      8.8797E+19  0.0000E+00
Aerosols (kg)          3.0501E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.3623E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1103E-04
Total I (Ci)                                   1.0223E+07

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      4.4726E+19
Elemental I (atoms)      2.9582E+17
Organic I (atoms)        9.1489E+15
Aerosols (kg)            3.1387E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9539E+22
Elemental I (atoms)    0.0000E+00  3.2768E+20
Organic I (atoms)      0.0000E+00  1.0134E+19
Aerosols (kg)          0.0000E+00  3.4765E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1519E+21
Elemental I (atoms)    0.0000E+00  3.4064E+19
Organic I (atoms)      0.0000E+00  1.0535E+18
Aerosols (kg)          0.0000E+00  3.6154E-02

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.2704E+00  5.7870E-06  4.1000E+19  1.7198E+13
Kr-85m                 3.2947E+01  4.0036E-09  2.8365E+16  2.5110E+14
Kr-87                  6.1893E+01  2.1851E-09  1.5125E+16  4.7911E+14
Kr-88                  9.0380E+01  7.2078E-09  4.9325E+16  6.9127E+14
Rb-86                  2.5516E-01  3.1358E-09  2.1959E+16  1.9329E+12
I-131                  1.3317E+02  1.0742E-06  4.9380E+18  1.0089E+15
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I-132                  1.8733E+02  1.8148E-08  8.2795E+16  1.4313E+15
I-133                  2.7358E+02  2.4151E-07  1.0935E+18  2.0751E+15
I-134                  2.6728E+02  1.0019E-08  4.5028E+16  2.0895E+15
I-135                  2.5731E+02  7.3269E-08  3.2684E+17  1.9572E+15
Xe-133                 2.6351E+02  1.4078E-06  6.3742E+18  1.9959E+15
Xe-135                 9.0989E+01  3.5630E-08  1.5894E+17  6.8566E+14
Cs-134                 3.3643E+01  2.6002E-05  1.1686E+20  2.5484E+14
Cs-136                 9.1780E+00  1.2523E-07  5.5451E+17  6.9527E+13
Cs-137                 2.6682E+01  3.0675E-04  1.3484E+21  2.0211E+14

Reactor Building Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.7626E+19  0.0000E+00
Elemental I (atoms)    3.1458E+17  0.0000E+00
Organic I (atoms)      9.7293E+15  0.0000E+00
Aerosols (kg)          3.3423E-04  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.9435E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.7515E-09
Total I (Ci)                                   1.1187E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      4.4726E+19
Elemental I (atoms)      2.9582E+17
Organic I (atoms)        9.1489E+15
Aerosols (kg)            3.1387E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9033E+17
Elemental I (atoms)    0.0000E+00  1.9195E+15
Organic I (atoms)      0.0000E+00  5.9367E+13
Aerosols (kg)          0.0000E+00  2.0375E-06

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      3.1914E+18
Elemental I (atoms)      2.1101E+16
Organic I (atoms)        6.5262E+14
Aerosols (kg)            2.2396E-05

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1869E-03  1.1104E+00  5.4312E-02
Accumulated dose (rem)  6.7925E-03  1.2202E+00  5.9676E-02

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.4827E-04  1.1635E-01  5.6909E-03
Accumulated dose (rem)  7.1173E-04  1.2785E-01  6.2529E-03

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4502E-04  1.1712E+00  5.1010E-02
Accumulated dose (rem)  2.5430E-04  1.2146E+00  5.2901E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
Kr-85                  4.6658E+04  1.1892E-01  8.4256E+23  1.4025E+18
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Kr-85m	6.5135E+05	7.9148E-05	5.6075E+20	2.0027E+19
Kr-87	1.1097E+06	3.9176E-05	2.7118E+20	3.6157E+19
Kr-88	1.7472E+06	1.3934E-04	9.5356E+20	5.4432E+19
Rb-86	1.0195E+03	1.2530E-05	8.7741E+19	7.1021E+16
I-131	5.3523E+05	4.3172E-03	1.9847E+22	3.7133E+19
I-132	7.5922E+05	7.3552E-05	3.3556E+20	5.2833E+19
I-133	1.0912E+06	9.6330E-04	4.3617E+21	7.6184E+19
I-134	8.8201E+05	3.3063E-05	1.4859E+20	7.2258E+19
I-135	1.0081E+06	2.8706E-04	1.2805E+21	7.1435E+19
Xe-133	5.4117E+06	2.8911E-02	1.3091E+23	1.6273E+20
Xe-135	1.8804E+06	7.3633E-04	3.2847E+21	5.6314E+19
Cs-134	1.3448E+05	1.0394E-01	4.6711E+23	9.3648E+18
Cs-136	3.6667E+04	5.0029E-04	2.2153E+21	2.5546E+18
Cs-137	1.0665E+05	1.2262E+00	5.3899E+24	7.4272E+18

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.4170	Atmosphere	Sump	
Noble gases (atoms)	9.7854E+23	0.0000E+00	
Elemental I (atoms)	1.2519E+21	6.0595E+21	
Organic I (atoms)	1.9896E+20	0.0000E+00	
Aerosols (kg)	1.3360E+00	6.4495E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.7934E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5434E-04
Total I (Ci)			4.2758E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.4170 Leakage Transport

Noble gases (atoms)	2.6821E+20
Elemental I (atoms)	8.0078E+17
Organic I (atoms)	5.4687E+16
Aerosols (kg)	8.5133E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8666E+23
Elemental I (atoms)	0.0000E+00	8.6347E+20
Organic I (atoms)	0.0000E+00	5.8453E+19
Aerosols (kg)	0.0000E+00	9.1792E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7316E+22
Elemental I (atoms)	0.0000E+00	2.7677E+20
Organic I (atoms)	0.0000E+00	1.3714E+19
Aerosols (kg)	0.0000E+00	2.9473E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
Kr-85	1.4556E+01	3.7101E-05	2.6286E+20	2.7699E+14
Kr-85m	2.0320E+02	2.4692E-08	1.7494E+17	3.9299E+15
Kr-87	3.4619E+02	1.2222E-08	8.4600E+16	6.9790E+15
Kr-88	5.4509E+02	4.3471E-08	2.9749E+17	1.0642E+16
Rb-86	7.7278E-01	9.4974E-09	6.6505E+16	2.0165E+13
I-131	4.0381E+02	3.2572E-06	1.4974E+19	1.0531E+16
I-132	5.3939E+02	5.2255E-08	2.3840E+17	1.4431E+16
I-133	8.2340E+02	7.2686E-07	3.2912E+18	2.1552E+16
I-134	6.6553E+02	2.4948E-08	1.1212E+17	1.9177E+16
I-135	7.6069E+02	2.1661E-07	9.6624E+17	2.0089E+16
Xe-133	1.6884E+03	9.0204E-06	4.0844E+19	3.2138E+16
Xe-135	5.8831E+02	2.3037E-07	1.0277E+18	1.1169E+16
Cs-134	1.0193E+02	7.8782E-05	3.5406E+20	2.6593E+15

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Cs-136                 2.7792E+01  3.7921E-07  1.6791E+18  7.2527E+14
Cs-137                 8.0841E+01  9.2940E-04  4.0854E+21  2.1091E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    3.0528E+20  0.0000E+00
Elemental I (atoms)    9.4812E+17  0.0000E+00
Organic I (atoms)      6.2049E+16  0.0000E+00
Aerosols (kg)          1.0126E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         8.8957E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1269E-08
Total I (Ci)                                   3.1928E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      2.6821E+20
Elemental I (atoms)      8.0078E+17
Organic I (atoms)        5.4687E+16
Aerosols (kg)            8.5133E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9408E+18
Elemental I (atoms)    0.0000E+00  2.1302E+16
Organic I (atoms)      0.0000E+00  1.0064E+15
Aerosols (kg)          0.0000E+00  2.2691E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      4.2044E+19
Elemental I (atoms)      1.7280E+17
Organic I (atoms)        8.5656E+15
Aerosols (kg)            1.8401E-04

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.2668E-04  4.8692E-03  5.2790E-04
Accumulated dose (rem)  7.1192E-03  1.2250E+00  6.0204E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.7935E-05  8.6352E-04  9.3621E-05
Accumulated dose (rem)  7.6966E-04  1.2871E-01  6.3466E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2632E-04  6.0569E-01  2.6379E-02
Accumulated dose (rem)  3.8062E-04  1.8203E+00  7.9280E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.4480E+04  1.3886E-01  9.8381E+23  1.9669E+18
Kr-85m                 7.5084E+05  9.1238E-05  6.4641E+20  2.7854E+19
Kr-87                  1.2384E+06  4.3721E-05  3.0263E+20  4.9274E+19
Kr-88                  1.9992E+06  1.5944E-04  1.0911E+21  7.5349E+19
Rb-86                  1.0072E+03  1.2379E-05  8.6681E+19  8.2198E+16
I-131                  5.2943E+05  4.2705E-03  1.9632E+22  4.3005E+19
I-132                  7.5096E+05  7.2752E-05  3.3191E+20  6.1175E+19
I-133                  1.0767E+06  9.5047E-04  4.3036E+21  8.8141E+19
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I-134                  8.1724E+05  3.0635E-05  1.3768E+20  8.1625E+19
I-135                  9.8881E+05  2.8156E-04  1.2560E+21  8.2448E+19
Xe-133                 6.3176E+06  3.3751E-02  1.5282E+23  2.2819E+20
Xe-135                 2.1987E+06  8.6099E-04  3.8407E+21  7.9080E+19
Cs-134                 1.3287E+05  1.0269E-01  4.6152E+23  1.0839E+19
Cs-136                 3.6222E+04  4.9422E-04  2.1884E+21  2.9565E+18
Cs-137                 1.0538E+05  1.2115E+00  5.3254E+24  8.5965E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1425E+24  0.0000E+00
Elemental I (atoms)    1.2352E+21  7.6052E+21
Organic I (atoms)      2.3194E+20  0.0000E+00
Aerosols (kg)          1.3200E+00  8.1000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7604E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.4962E-04
Total I (Ci)                                   4.1631E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      3.7829E+20
Elemental I (atoms)      9.2959E+17
Organic I (atoms)        7.7053E+16
Aerosols (kg)            9.8887E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0346E+23
Elemental I (atoms)    0.0000E+00  1.0001E+21
Organic I (atoms)      0.0000E+00  8.2184E+19
Aerosols (kg)          0.0000E+00  1.0639E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0980E+23
Elemental I (atoms)    0.0000E+00  3.7669E+20
Organic I (atoms)      0.0000E+00  2.2344E+19
Aerosols (kg)          0.0000E+00  4.0151E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  2.0899E+01  5.3269E-05  3.7740E+20  4.7609E+14
Kr-85m                 2.8803E+02  3.5000E-08  2.4797E+17  6.6905E+15
Kr-87                  4.7508E+02  1.6772E-08  1.1610E+17  1.1603E+16
Kr-88                  7.6694E+02  6.1163E-08  4.1856E+17  1.8018E+16
Rb-86                  9.2031E-01  1.1311E-08  7.9202E+16  2.9619E+13
I-131                  4.8115E+02  3.8810E-06  1.7841E+19  1.5472E+16
I-132                  6.3285E+02  6.1310E-08  2.7971E+17  2.0983E+16
I-133                  9.7864E+02  8.6391E-07  3.9117E+18  3.1616E+16
I-134                  7.4282E+02  2.7845E-08  1.2514E+17  2.7054E+16
I-135                  8.9876E+02  2.5592E-07  1.1416E+18  2.9358E+16
Xe-133                 2.4236E+03  1.2948E-05  5.8626E+19  5.5230E+16
Xe-135                 8.4407E+02  3.3053E-07  1.4744E+18  1.9210E+16
Cs-134                 1.2140E+02  9.3834E-05  4.2170E+20  3.9064E+15
Cs-136                 3.3096E+01  4.5157E-07  1.9996E+18  1.0653E+15
Cs-137                 9.6287E+01  1.1070E-03  4.8660E+21  3.0982E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    4.3829E+20  0.0000E+00
Elemental I (atoms)    1.1274E+18  0.0000E+00
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Organic I (atoms)      8.8940E+16  0.0000E+00
Aerosols (kg)          1.2061E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0588E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.3388E-08
Total I (Ci)                                   3.7342E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      3.7829E+20
Elemental I (atoms)      9.2959E+17
Organic I (atoms)        7.7053E+16
Aerosols (kg)            9.8887E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.5426E+18
Elemental I (atoms)    9.0967E+15  2.2313E+16
Organic I (atoms)      6.5835E+14  1.0795E+15
Aerosols (kg)          1.0587E-05  2.2907E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      6.8598E+19
Elemental I (atoms)      2.3524E+17
Organic I (atoms)        1.3959E+16
Aerosols (kg)            2.5074E-04

Exclusion Area Boundary Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.9078E-05  9.8940E-04  1.3121E-04
Accumulated dose (rem)  7.2083E-03  1.2260E+00  6.0336E-02

Low Population Zone Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0970E-04  1.2184E-03  1.6159E-04
Accumulated dose (rem)  8.7936E-04  1.2993E-01  6.5082E-03

Control Room Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4107E-04  6.9725E-01  3.0365E-02
Accumulated dose (rem)  5.2169E-04  2.5175E+00  1.0965E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
Co-58                  4.4404E+01  1.3965E-06  1.4499E+19  7.1815E+14
Co-60                  5.3160E+01  4.7028E-05  4.7202E+20  8.5972E+14
Kr-85                  1.8003E+05  4.5887E-01  3.2510E+24  4.6924E+18
Kr-85m                 2.4180E+06  2.9382E-04  2.0817E+21  6.4855E+19
Kr-87                  3.7369E+06  1.3193E-04  9.1319E+20  1.0804E+20
Kr-88                  6.3431E+06  5.0586E-04  3.4618E+21  1.7302E+20
Rb-86                  1.3044E+03  1.6031E-05  1.1226E+20  1.0935E+17
Sr-89                  6.0230E+04  2.0732E-03  1.4028E+22  9.7410E+17
Sr-90                  9.4773E+03  6.9478E-02  4.6490E+23  1.5327E+17
Sr-91                  7.2806E+04  2.0084E-05  1.3291E+20  1.1833E+18
Sr-92                  6.8220E+04  5.4274E-06  3.5527E+19  1.1226E+18
Y-90                   1.0343E+02  1.9010E-07  1.2720E+18  1.6340E+15
Y-91                   7.7889E+02  3.1761E-05  2.1018E+20  1.2591E+16
Y-92                   1.5387E+03  1.5991E-07  1.0467E+18  1.9937E+16
Y-93                   5.9179E+02  1.7738E-07  1.1486E+18  9.6152E+15
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Zr-95	1.1092E+03	5.1631E-05	3.2730E+20	1.7939E+16
Zr-97	1.0496E+03	5.4905E-07	3.4087E+18	1.7022E+16
Nb-95	1.1095E+03	2.8374E-05	1.7987E+20	1.7943E+16
Mo-99	1.4442E+04	3.0111E-05	1.8317E+20	2.3372E+17
Tc-99m	1.2895E+04	2.4524E-06	1.4918E+19	2.0845E+17
Ru-103	1.2514E+04	3.8776E-04	2.2671E+21	2.0240E+17
Ru-105	7.9154E+03	1.1775E-06	6.7536E+18	1.2937E+17
Ru-106	5.4607E+03	1.6322E-03	9.2731E+21	8.8313E+16
Rh-105	8.2266E+03	9.7465E-06	5.5900E+19	1.3304E+17
Sb-127	1.3742E+04	5.1459E-05	2.4401E+20	2.2236E+17
Sb-129	4.5175E+04	8.0334E-06	3.7502E+19	7.3858E+17
Te-127	1.3709E+04	5.1947E-06	2.4633E+19	2.2165E+17
Te-127m	2.3501E+03	2.4914E-04	1.1814E+21	3.8006E+16
Te-129	4.6201E+04	2.2061E-06	1.0299E+19	7.4841E+17
Te-129m	9.6704E+03	3.2101E-04	1.4986E+21	1.5639E+17
Te-131m	3.0918E+04	3.8774E-05	1.7824E+20	5.0081E+17
Te-132	2.2021E+05	7.2536E-04	3.3093E+21	3.5635E+18
I-131	8.4094E+05	6.7832E-03	3.1183E+22	5.9778E+19
I-132	1.1988E+06	1.1614E-04	5.2987E+20	8.5108E+19
I-133	1.7016E+06	1.5021E-03	6.8014E+21	1.2216E+20
I-134	1.1384E+06	4.2673E-05	1.9178E+20	1.0580E+20
I-135	1.5442E+06	4.3970E-04	1.9614E+21	1.1349E+20
Xe-133	2.0878E+07	1.1154E-01	5.0504E+23	5.4429E+20
Xe-135	7.4035E+06	2.8991E-03	1.2932E+22	1.9071E+20
Cs-134	1.7212E+05	1.3303E-01	5.9786E+23	1.4421E+19
Cs-136	4.6905E+04	6.3999E-04	2.8339E+21	3.9328E+18
Cs-137	1.3651E+05	1.5694E+00	6.8987E+24	1.1437E+19
Ba-139	8.0448E+04	4.9183E-06	2.1308E+19	1.3464E+18
Ba-140	1.1309E+05	1.5448E-03	6.6450E+21	1.8293E+18
La-140	1.3149E+03	2.3656E-06	1.0176E+19	2.0532E+16
La-141	9.1794E+02	1.6231E-07	6.9325E+17	1.5024E+16
La-142	7.4794E+02	5.2248E-08	2.2158E+17	1.2472E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	4.2053E+16
Ce-143	2.3933E+03	3.6040E-06	1.5177E+19	3.8761E+16
Ce-144	2.2343E+03	7.0053E-04	2.9296E+21	3.6135E+16
Pr-143	9.4022E+02	1.3963E-05	5.8800E+19	1.5204E+16
Nd-147	4.1765E+02	5.1626E-06	2.1150E+19	6.7556E+15
Np-239	3.0378E+04	1.3094E-04	3.2994E+20	4.9169E+17
Pu-238	8.0130E+00	4.6806E-04	1.1843E+21	1.2959E+14
Pu-239	7.5709E-01	1.2180E-02	3.0691E+22	1.2244E+13
Pu-240	1.3869E+00	6.0866E-03	1.5273E+22	2.2430E+13
Pu-241	3.0627E+02	2.9732E-03	7.4293E+21	4.9532E+15
Am-241	2.0112E-01	5.8598E-05	1.4642E+20	3.2525E+12
Cm-242	5.1156E+01	1.5435E-05	3.8409E+19	8.2732E+14
Cm-244	2.9742E+00	3.6763E-05	9.0733E+19	4.8100E+13

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.6667	Atmosphere	Sump
Noble gases (atoms)	3.7754E+24	0.0000E+00
Elemental I (atoms)	1.9581E+21	1.1958E+22
Organic I (atoms)	3.5376E+20	0.0000E+00
Aerosols (kg)	1.8110E+00	1.2256E+01

Dose Effective (Ci/cc) I-131 (Thyroid)	4.3759E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)	5.5272E-04
Total I (Ci)	6.4239E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 0.6667 Leakage Transport

Noble gases (atoms)	8.9845E+20
Elemental I (atoms)	1.2923E+18
Organic I (atoms)	1.3834E+17
Aerosols (kg)	1.3352E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Pathway

Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5539E+23
Elemental I (atoms)	0.0000E+00	1.3850E+21
Organic I (atoms)	0.0000E+00	1.4721E+20
Aerosols (kg)	0.0000E+00	1.4313E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6189E+23
Elemental I (atoms)	0.0000E+00	6.0608E+20
Organic I (atoms)	0.0000E+00	4.8291E+19
Aerosols (kg)	0.0000E+00	6.4191E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	6.9316E-03	2.1799E-10	2.2634E+15	6.3984E+10
Co-60	8.2983E-03	7.3411E-09	7.3682E+16	7.6599E+10
Kr-85	4.9594E+01	1.2641E-04	8.9558E+20	1.2229E+15
Kr-85m	6.6610E+02	8.0940E-08	5.7345E+17	1.6833E+16
Kr-87	1.0294E+03	3.6343E-08	2.5157E+17	2.7724E+16
Kr-88	1.7474E+03	1.3935E-07	9.5365E+17	4.4795E+16
Rb-86	1.2655E+00	1.5552E-08	1.0891E+17	5.3989E+13
Sr-89	9.4020E+00	3.2362E-07	2.1898E+18	8.6789E+13
Sr-90	1.4794E+00	1.0846E-05	7.2571E+19	1.3656E+13
Sr-91	1.1365E+01	3.1352E-09	2.0748E+16	1.0527E+14
Sr-92	1.0649E+01	8.4723E-10	5.5458E+15	9.9498E+13
Y-90	1.6973E-02	3.1196E-11	2.0874E+14	1.5158E+11
Y-91	1.2171E-01	4.9629E-09	3.2843E+16	1.1227E+12
Y-92	3.4862E-01	3.6231E-11	2.3716E+14	2.5659E+12
Y-93	9.2379E-02	2.7689E-11	1.7930E+14	8.5549E+11
Zr-95	1.7315E-01	8.0597E-09	5.1091E+16	1.5983E+12
Zr-97	1.6385E-01	8.5708E-11	5.3211E+14	1.5153E+12
Nb-95	1.7320E-01	4.4292E-09	2.8077E+16	1.5987E+12
Mo-99	2.2544E+00	4.7004E-09	2.8592E+16	2.0820E+13
Tc-99m	2.0130E+00	3.8282E-10	2.3287E+15	1.8572E+13
Ru-103	1.9535E+00	6.0529E-08	3.5390E+17	1.8033E+13
Ru-105	1.2356E+00	1.8381E-10	1.0542E+15	1.1490E+13
Ru-106	8.5242E-01	2.5479E-07	1.4475E+18	7.8685E+12
Rh-105	1.2842E+00	1.5214E-09	8.7260E+15	1.1853E+13
Sb-127	2.1452E+00	8.0329E-09	3.8091E+16	1.9809E+13
Sb-129	7.0518E+00	1.2540E-09	5.8542E+15	6.5589E+13
Te-127	2.1401E+00	8.1091E-10	3.8452E+15	1.9748E+13
Te-127m	3.6685E-01	3.8891E-08	1.8442E+17	3.3862E+12
Te-129	7.2121E+00	3.4438E-10	1.6077E+15	6.6600E+13
Te-129m	1.5096E+00	5.0109E-08	2.3393E+17	1.3934E+13
Te-131m	4.8264E+00	6.0526E-09	2.7824E+16	4.4600E+13
Te-132	3.4376E+01	1.1323E-07	5.1658E+17	3.1744E+14
I-131	6.8635E+02	5.5362E-06	2.5450E+19	2.8443E+16
I-132	8.8403E+02	8.5644E-08	3.9073E+17	3.7853E+16
I-133	1.3891E+03	1.2262E-06	5.5522E+18	5.7927E+16
I-134	9.2928E+02	3.4835E-08	1.5655E+17	4.5747E+16
I-135	1.2605E+03	3.5894E-07	1.6012E+18	5.3369E+16
Xe-133	5.7489E+03	3.0713E-05	1.3907E+20	1.4182E+17
Xe-135	2.0115E+03	7.8769E-07	3.5138E+18	4.9436E+16
Cs-134	1.6698E+02	1.2906E-04	5.8000E+20	7.1216E+15
Cs-136	4.5504E+01	6.2087E-07	2.7492E+18	1.9416E+15
Cs-137	1.3243E+02	1.5225E-03	6.6926E+21	5.6482E+15
Ba-139	1.2558E+01	7.6775E-10	3.3263E+15	1.1872E+14
Ba-140	1.7654E+01	2.4115E-07	1.0373E+18	1.6298E+14
La-140	2.2095E-01	3.9751E-10	1.7099E+15	1.9431E+12
La-141	1.4329E-01	2.5337E-11	1.0822E+14	1.3338E+12
La-142	1.1675E-01	8.1560E-12	3.4589E+13	1.1010E+12
Ce-141	4.0590E-01	1.4245E-08	6.0842E+16	3.7468E+12
Ce-143	3.7360E-01	5.6258E-10	2.3692E+15	3.4520E+12

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Ce-144                 3.4878E-01  1.0935E-07  4.5732E+17  3.2195E+12
Pr-143                 1.4679E-01  2.1799E-09  9.1803E+15  1.3548E+12
Nd-147                 6.5195E-02  8.0589E-10  3.3015E+15  6.0187E+11
Np-239                 4.7420E+00  2.0441E-08  5.1504E+16  4.3798E+13
Pu-238                 1.2508E-03  7.3065E-08  1.8488E+17  1.1546E+10
Pu-239                 1.1818E-04  1.9014E-06  4.7909E+18  1.0909E+09
Pu-240                 2.1650E-04  9.5013E-07  2.3841E+18  1.9985E+09
Pu-241                 4.7809E-02  4.6411E-07  1.1597E+18  4.4131E+11
Am-241                 3.1395E-05  9.1473E-09  2.2857E+16  2.8979E+08
Cm-242                 7.9855E-03  2.4094E-09  5.9958E+15  7.3712E+10
Cm-244                 4.6427E-04  5.7387E-09  1.4164E+16  4.2856E+09

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    1.0399E+21  0.0000E+00
Elemental I (atoms)    1.6023E+18  0.0000E+00
Organic I (atoms)      1.6359E+17  0.0000E+00
Aerosols (kg)          1.6746E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5072E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8995E-08
Total I (Ci)                                   5.1493E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      8.9845E+20
Elemental I (atoms)      1.2923E+18
Organic I (atoms)        1.3834E+17
Aerosols (kg)            1.3352E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1989E+19
Elemental I (atoms)    3.2894E+16  2.4957E+16
Organic I (atoms)      2.8346E+15  1.3214E+15
Aerosols (kg)          3.8021E-05  2.3467E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      1.6365E+20
Elemental I (atoms)      3.7861E+17
Organic I (atoms)        3.0176E+16
Aerosols (kg)            4.0099E-04

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.5488E-03  2.3844E-02  9.7613E-03
Accumulated dose (rem)  1.5757E-02  1.2499E+00  7.0097E-02

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0527E-02  2.9363E-02  1.2021E-02
Accumulated dose (rem)  1.1407E-02  1.5930E-01  1.8529E-02

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9532E-04  1.5061E+00  6.5743E-02
Accumulated dose (rem)  9.1700E-04  4.0236E+00  1.7539E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0848E+01	1.5991E-06	1.6603E+19	9.5333E+15
Co-60	6.0906E+01	5.3880E-05	5.4079E+20	1.1416E+16
Kr-85	9.2627E+05	2.3609E+00	1.6727E+25	1.0606E+20
Kr-85m	1.0122E+07	1.2299E-03	8.7138E+21	1.2679E+21
Kr-87	9.2956E+06	3.2817E-04	2.2716E+21	1.4877E+21
Kr-88	2.3570E+07	1.8797E-03	1.2864E+22	3.1154E+21
Rb-86	1.3606E+03	1.6722E-05	1.1709E+20	3.4889E+17
Sr-89	6.8955E+04	2.3735E-03	1.6060E+22	1.2930E+19
Sr-90	1.0858E+04	7.9603E-02	5.3264E+23	2.0352E+18
Sr-91	7.5683E+04	2.0878E-05	1.3817E+20	1.4951E+19
Sr-92	5.5576E+04	4.4215E-06	2.8942E+19	1.2575E+19
Y-90	1.2399E+02	2.2789E-07	1.5249E+18	2.2575E+16
Y-91	8.9271E+02	3.6402E-05	2.4090E+20	1.6728E+17
Y-92	1.9859E+03	2.0639E-07	1.3510E+18	3.4174E+17
Y-93	6.1874E+02	1.8546E-07	1.2009E+18	1.2185E+17
Zr-95	1.2701E+03	5.9120E-05	3.7477E+20	2.3813E+17
Zr-97	1.1386E+03	5.9559E-07	3.6977E+18	2.1978E+17
Nb-95	1.2712E+03	3.2509E-05	2.0608E+20	2.3826E+17
Mo-99	1.6316E+04	3.4020E-05	2.0694E+20	3.0812E+18
Tc-99m	1.4730E+04	2.8014E-06	1.7041E+19	2.7642E+18
Ru-103	1.4324E+04	4.4383E-04	2.5949E+21	2.6862E+18
Ru-105	7.3648E+03	1.0956E-06	6.2838E+18	1.5464E+18
Ru-106	6.2558E+03	1.8699E-03	1.0623E+22	1.1726E+18
Rh-105	9.3934E+03	1.1129E-05	6.3828E+19	1.7643E+18
Sb-127	1.5588E+04	5.8372E-05	2.7679E+20	2.9374E+18
Sb-129	4.1790E+04	7.4314E-06	3.4692E+19	8.8031E+18
Te-127	1.5687E+04	5.9440E-06	2.8186E+19	2.9414E+18
Te-127m	2.6926E+03	2.8545E-04	1.3536E+21	5.0467E+17
Te-129	4.7317E+04	2.2594E-06	1.0548E+19	9.4308E+18
Te-129m	1.1079E+04	3.6775E-04	1.7168E+21	2.0766E+18
Te-131m	3.4349E+04	4.3076E-05	1.9802E+20	6.5456E+18
Te-132	2.4934E+05	8.2130E-04	3.7470E+21	4.7031E+19
I-131	9.0716E+05	7.3173E-03	3.3638E+22	2.1781E+20
I-132	1.2805E+06	1.2405E-04	5.6596E+20	3.0934E+20
I-133	1.7630E+06	1.5563E-03	7.0467E+21	4.3549E+20
I-134	4.2967E+05	1.6107E-05	7.2385E+19	2.3760E+20
I-135	1.4543E+06	4.1411E-04	1.8473E+21	3.8467E+20
Xe-133	1.0706E+08	5.7198E-01	2.5899E+24	1.2277E+22
Xe-135	3.8738E+07	1.5169E-02	6.7668E+22	4.4167E+21
Cs-134	1.7989E+05	1.3904E-01	6.2487E+23	4.6061E+19
Cs-136	4.8882E+04	6.6696E-04	2.9533E+21	1.2543E+19
Cs-137	1.4268E+05	1.6404E+00	7.2106E+24	3.6532E+19
Ba-139	4.7142E+04	2.8821E-06	1.2486E+19	1.2934E+19
Ba-140	1.2918E+05	1.7646E-03	7.5904E+21	2.4252E+19
La-140	1.6086E+03	2.8941E-06	1.2449E+19	2.8913E+17
La-141	8.3132E+02	1.4700E-07	6.2783E+17	1.7721E+17
La-142	4.7055E+02	3.2871E-08	1.3940E+17	1.2374E+17
Ce-141	2.9784E+03	1.0453E-04	4.4645E+20	5.5834E+17
Ce-143	2.6664E+03	4.0151E-06	1.6909E+19	5.0733E+17
Ce-144	2.5596E+03	8.0251E-04	3.3561E+21	4.7978E+17
Pr-143	1.0774E+03	1.6000E-05	6.7380E+19	2.0192E+17
Nd-147	4.7684E+02	5.8942E-06	2.4147E+19	8.9542E+16
Np-239	3.4240E+04	1.4759E-04	3.7189E+20	6.4743E+18
Pu-238	9.1809E+00	5.3628E-04	1.3570E+21	1.7208E+15
Pu-239	8.6757E-01	1.3958E-02	3.5170E+22	1.6260E+14
Pu-240	1.5890E+00	6.9736E-03	1.7498E+22	2.9784E+14
Pu-241	3.5090E+02	3.4064E-03	8.5119E+21	6.5771E+16
Am-241	2.3046E-01	6.7148E-05	1.6779E+20	4.3192E+13
Cm-242	5.8597E+01	1.7680E-05	4.3996E+19	1.0984E+16
Cm-244	3.4076E+00	4.2120E-05	1.0396E+20	6.3869E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump
Noble gases (atoms)	1.9408E+25	0.0000E+00
Elemental I (atoms)	2.0416E+21	5.2663E+22
Organic I (atoms)	1.1383E+21	0.0000E+00

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Aerosols (kg)          1.9028E+00  4.9905E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6496E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.7725E-04
Total I (Ci)                                   5.8346E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.0740E+22
Elemental I (atoms)      4.6844E+18
Organic I (atoms)        1.4025E+18
Aerosols (kg)            4.4726E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2008E+25
Elemental I (atoms)    0.0000E+00  4.9842E+21
Organic I (atoms)      0.0000E+00  1.4885E+21
Aerosols (kg)          0.0000E+00  4.7603E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2725E+25
Elemental I (atoms)    0.0000E+00  3.6450E+21
Organic I (atoms)      0.0000E+00  9.1341E+20
Aerosols (kg)          0.0000E+00  3.5354E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg          Atoms       Decay
Co-58                  1.1902E-01  3.7431E-09  3.8865E+16  1.0914E+13
Co-60                  1.4257E-01  1.2612E-07  1.2659E+18  1.3071E+13
Kr-85                  1.2860E+03  3.2779E-03  2.3224E+22  9.5020E+16
Kr-85m                 1.4053E+04  1.7076E-06  1.2098E+19  1.1092E+18
Kr-87                  1.2906E+04  4.5563E-07  3.1539E+18  1.2185E+18
Kr-88                  3.2725E+04  2.6098E-06  1.7860E+19  2.6867E+18
Rb-86                  4.3766E+00  5.3788E-08  3.7665E+17  5.5702E+14
Sr-89                  1.6141E+02  5.5558E-06  3.7593E+19  1.4802E+16
Sr-90                  2.5417E+01  1.8633E-04  1.2468E+21  2.3302E+15
Sr-91                  1.7716E+02  4.8871E-08  3.2341E+17  1.6807E+16
Sr-92                  1.3009E+02  1.0350E-08  6.7748E+16  1.3481E+16
Y-90                   4.8496E-01  8.9137E-10  5.9644E+15  3.8255E+13
Y-91                   2.1168E+00  8.6318E-08  5.7123E+17  1.9327E+14
Y-92                   2.3414E+01  2.4333E-09  1.5928E+16  1.6782E+15
Y-93                   1.4483E+00  4.3411E-10  2.8110E+15  1.3712E+14
Zr-95                  2.9729E+00  1.3839E-07  8.7724E+17  2.7262E+14
Zr-97                  2.6651E+00  1.3941E-09  8.6553E+15  2.4906E+14
Nb-95                  2.9756E+00  7.6095E-08  4.8237E+17  2.7280E+14
Mo-99                  3.8193E+01  7.9632E-08  4.8440E+17  3.5187E+15
Tc-99m                 3.4481E+01  6.5574E-09  3.9889E+16  3.1631E+15
Ru-103                 3.3529E+01  1.0389E-06  6.0742E+18  3.0751E+15
Ru-105                 1.7239E+01  2.5646E-09  1.4709E+16  1.7017E+15
Ru-106                 1.4643E+01  4.3770E-06  2.4867E+19  1.3426E+15
Rh-105                 2.1988E+01  2.6050E-08  1.4941E+17  2.0188E+15
Sb-127                 3.6489E+01  1.3663E-07  6.4790E+17  3.3570E+15
Sb-129                 9.7820E+01  1.7395E-08  8.1206E+16  9.6761E+15
Te-127                 3.6719E+01  1.3914E-08  6.5976E+16  3.3670E+15
Te-127m                6.3027E+00  6.6818E-07  3.1684E+18  5.7783E+14
Te-129                 1.1076E+02  5.2887E-09  2.4689E+16  1.0574E+16
Te-129m                2.5933E+01  8.6083E-07  4.0186E+18  2.3776E+15
Te-131m                8.0404E+01  1.0083E-07  4.6353E+17  7.4513E+15
Te-132                 5.8365E+02  1.9225E-06  8.7708E+18  5.3730E+16
I-131                  2.7238E+03  2.1971E-05  1.0100E+20  3.3076E+17
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I-132                  3.0584E+03  2.9629E-07  1.3518E+18  3.9647E+17
I-133                  5.2959E+03  4.6750E-06  2.1168E+19  6.5524E+17
I-134                  1.2907E+03  4.8384E-08  2.1744E+17  2.7291E+17
I-135                  4.3687E+03  1.2440E-06  5.5492E+18  5.6555E+17
Xe-133                 1.4842E+05  7.9289E-04  3.5902E+21  1.0982E+19
Xe-135                 5.1441E+04  2.0144E-05  8.9858E+19  3.8302E+18
Cs-134                 5.7866E+02  4.4724E-04  2.0100E+21  7.3576E+16
Cs-136                 1.5724E+02  2.1454E-06  9.4998E+18  2.0020E+16
Cs-137                 4.5896E+02  5.2765E-03  2.3194E+22  5.8355E+16
Ba-139                 1.1035E+02  6.7462E-09  2.9228E+16  1.2966E+16
Ba-140                 3.0239E+02  4.1305E-06  1.7767E+19  2.7752E+16
La-140                 7.4389E+00  1.3384E-08  5.7569E+16  5.6534E+14
La-141                 1.9459E+00  3.4409E-10  1.4696E+15  1.9397E+14
La-142                 1.1014E+00  7.6943E-11  3.2631E+14  1.2588E+14
Ce-141                 6.9697E+00  2.4461E-07  1.0447E+18  6.3912E+14
Ce-143                 6.2414E+00  9.3985E-09  3.9580E+16  5.7784E+14
Ce-144                 5.9914E+00  1.8785E-06  7.8559E+18  5.4932E+14
Pr-143                 2.5277E+00  3.7538E-08  1.5808E+17  2.3156E+14
Nd-147                 1.1162E+00  1.3797E-08  5.6522E+16  1.0246E+14
Np-239                 8.0149E+01  3.4548E-07  8.7052E+17  7.3902E+15
Pu-238                 2.1490E-02  1.2553E-06  3.1763E+18  1.9702E+12
Pu-239                 2.0308E-03  3.2672E-05  8.2325E+19  1.8617E+11
Pu-240                 3.7196E-03  1.6324E-05  4.0959E+19  3.4102E+11
Pu-241                 8.2138E-01  7.9736E-06  1.9924E+19  7.5305E+13
Am-241                 5.3952E-04  1.5720E-07  3.9280E+17  4.9459E+10
Cm-242                 1.3716E-01  4.1385E-08  1.0299E+17  1.2576E+13
Cm-244                 7.9764E-03  9.8592E-08  2.4333E+17  7.3128E+11

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    2.6937E+22  0.0000E+00
Elemental I (atoms)    6.1916E+18  0.0000E+00
Organic I (atoms)      1.8169E+18  0.0000E+00
Aerosols (kg)          6.0193E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.8879E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.2750E-08
Total I (Ci)                                   1.6737E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.0740E+22
Elemental I (atoms)      4.6844E+18
Organic I (atoms)        1.4025E+18
Aerosols (kg)            4.4726E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7380E+21
Elemental I (atoms)    5.8093E+17  8.5849E+16
Organic I (atoms)      1.2125E+17  1.4479E+16
Aerosols (kg)          6.2674E-04  3.5482E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      7.9532E+21
Elemental I (atoms)      2.2779E+18
Organic I (atoms)        5.7088E+17
Aerosols (kg)            2.2094E-03

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1390E-03  6.0126E-03  3.4567E-03
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Accumulated dose (rem)	1.8896E-02	1.2559E+00	7.3554E-02

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6627E-03	3.1847E-03	1.8309E-03
Accumulated dose (rem)	1.3070E-02	1.6248E-01	2.0360E-02

Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9779E-05	5.3920E-02	2.4085E-03
Accumulated dose (rem)	9.7678E-04	4.0775E+00	1.7780E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1045E+00	1.6053E-07	1.6668E+18	9.7732E+15
Co-60	6.1147E+00	5.4094E-06	5.4294E+19	1.1703E+16
Kr-85	8.7584E+05	2.2324E+00	1.5816E+25	1.2967E+20
Kr-85m	9.2789E+06	1.1275E-03	7.9883E+21	1.5220E+21
Kr-87	7.8817E+06	2.7825E-04	1.9261E+21	1.7123E+21
Kr-88	2.1225E+07	1.6927E-03	1.1584E+22	3.7019E+21
Rb-86	1.3971E+02	1.7170E-06	1.2024E+19	3.5539E+17
Sr-89	6.9220E+03	2.3826E-04	1.6122E+21	1.3255E+19
Sr-90	1.0901E+03	7.9918E-03	5.3476E+22	2.0864E+18
Sr-91	7.4882E+03	2.0657E-06	1.3670E+19	1.5306E+19
Sr-92	5.3014E+03	4.2177E-07	2.7608E+18	1.2832E+19
Y-90	1.7334E+01	3.1861E-08	2.1319E+17	2.3243E+16
Y-91	9.0283E+01	3.6814E-06	2.4363E+19	1.7150E+17
Y-92	6.3757E+02	6.6259E-08	4.3372E+17	3.5870E+17
Y-93	6.1273E+01	1.8365E-08	1.1892E+17	1.2475E+17
Zr-95	1.2750E+02	5.9349E-06	3.7622E+19	2.4412E+17
Zr-97	1.1338E+02	5.9307E-08	3.6820E+17	2.2513E+17
Nb-95	1.2762E+02	3.2638E-06	2.0689E+19	2.4426E+17
Mo-99	1.6347E+03	3.4083E-06	2.0733E+19	3.1582E+18
Tc-99m	1.4782E+03	2.8112E-07	1.7100E+18	2.8333E+18
Ru-103	1.4379E+03	4.4552E-05	2.6049E+20	2.7538E+18
Ru-105	7.1667E+02	1.0661E-07	6.1148E+17	1.5808E+18
Ru-106	6.2806E+02	1.8773E-04	1.0665E+21	1.2021E+18
Rh-105	9.4223E+02	1.1163E-06	6.4025E+18	1.8086E+18
Sb-127	1.5627E+03	5.8515E-06	2.7747E+19	3.0110E+18
Sb-129	4.0631E+03	7.2253E-07	3.3730E+18	8.9979E+18
Te-127	1.5746E+03	5.9664E-07	2.8292E+18	3.0151E+18
Te-127m	2.7033E+02	2.8659E-05	1.3590E+20	5.1737E+17
Te-129	4.6681E+03	2.2290E-07	1.0406E+18	9.6470E+18
Te-129m	1.1122E+03	3.6920E-05	1.7236E+20	2.1289E+18
Te-131m	3.4327E+03	4.3048E-06	1.9789E+19	6.7073E+18
Te-132	2.4989E+04	8.2310E-05	3.7552E+20	4.8207E+19
I-131	1.1299E+05	9.1137E-04	4.1896E+21	2.2263E+20
I-132	1.4483E+05	1.4031E-05	6.4012E+19	3.1581E+20
I-133	2.1829E+05	1.9270E-04	8.7253E+20	4.4484E+20
I-134	4.5725E+04	1.7140E-06	7.7031E+18	2.3974E+20
I-135	1.7752E+05	5.0548E-05	2.2548E+20	3.9234E+20
Xe-133	1.0111E+08	5.4017E-01	2.4459E+24	1.5005E+22
Xe-135	3.5949E+07	1.4077E-02	6.2795E+22	5.3940E+21
Cs-134	1.8478E+04	1.4281E-02	6.4182E+22	4.6921E+19
Cs-136	5.0187E+03	6.8477E-05	3.0322E+20	1.2776E+19
Cs-137	1.4656E+04	1.6849E-01	7.4064E+23	3.7214E+19
Ba-139	4.2800E+03	2.6166E-07	1.1336E+18	1.3148E+19
Ba-140	1.2964E+04	1.7708E-04	7.6171E+20	2.4862E+19
La-140	2.5367E+02	4.5638E-07	1.9631E+18	2.9828E+17
La-141	8.0569E+01	1.4247E-08	6.0847E+16	1.8107E+17
La-142	4.3179E+01	3.0163E-09	1.2792E+16	1.2588E+17
Ce-141	2.9896E+02	1.0492E-05	4.4812E+19	5.7239E+17
Ce-143	2.6657E+02	4.0142E-07	1.6905E+18	5.1989E+17
Ce-144	2.5697E+02	8.0567E-05	3.3694E+20	4.9186E+17

Pr-143	1.0831E+02	1.6085E-06	6.7737E+18	2.0700E+17
Nd-147	4.7848E+01	5.9145E-07	2.4230E+18	9.1792E+16
Np-239	3.4292E+03	1.4782E-05	3.7246E+19	6.6357E+18
Pu-238	9.2174E-01	5.3841E-05	1.3623E+20	1.7641E+15
Pu-239	8.7104E-02	1.4014E-03	3.5311E+21	1.6669E+14
Pu-240	1.5954E-01	7.0013E-04	1.7568E+21	3.0534E+14
Pu-241	3.5229E+01	3.4199E-04	8.5457E+20	6.7426E+16
Am-241	2.3140E-02	6.7420E-06	1.6847E+19	4.4280E+13
Cm-242	5.8827E+00	1.7750E-06	4.4169E+18	1.1261E+16
Cm-244	3.4211E-01	4.2287E-06	1.0437E+19	6.5477E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8346E+25	0.0000E+00	
Elemental I (atoms)	2.0790E+20	5.4669E+22	
Organic I (atoms)	1.0793E+21	0.0000E+00	
Aerosols (kg)	1.9518E-01	5.1777E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.7756E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.1411E-05
Total I (Ci)			6.9935E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Leakage Transport
Noble gases (atoms)	2.5445E+22
Elemental I (atoms)	4.8516E+18
Organic I (atoms)	1.6791E+18
Aerosols (kg)	4.6287E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7000E+25
Elemental I (atoms)	0.0000E+00	5.1616E+21
Organic I (atoms)	0.0000E+00	1.7821E+21
Aerosols (kg)	0.0000E+00	4.9259E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6665E+25
Elemental I (atoms)	0.0000E+00	4.1195E+21
Organic I (atoms)	0.0000E+00	1.1519E+21
Aerosols (kg)	0.0000E+00	3.9808E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	1.2764E-01	4.0140E-09	4.1677E+16	1.4276E+13
Co-60	1.5289E-01	1.3526E-07	1.3576E+18	1.7098E+13
Kr-85	1.5943E+03	4.0637E-03	2.8791E+22	1.3545E+17
Kr-85m	1.6891E+04	2.0525E-06	1.4542E+19	1.5441E+18
Kr-87	1.4348E+04	5.0652E-07	3.5062E+18	1.6024E+18
Kr-88	3.8638E+04	3.0813E-06	2.1087E+19	3.6902E+18
Rb-86	4.5862E+00	5.6364E-08	3.9468E+17	6.7832E+14
Sr-89	1.7308E+02	5.9576E-06	4.0312E+19	1.9361E+16
Sr-90	2.7258E+01	1.9983E-04	1.3371E+21	3.0482E+15
Sr-91	1.8724E+02	5.1652E-08	3.4182E+17	2.1775E+16
Sr-92	1.3256E+02	1.0546E-08	6.9033E+16	1.7063E+16
Y-90	5.6577E-01	1.0399E-09	6.9583E+15	5.2060E+13
Y-91	2.2761E+00	9.2811E-08	6.1420E+17	2.5308E+14
Y-92	2.8281E+01	2.9391E-09	1.9239E+16	2.3365E+15
Y-93	1.5321E+00	4.5922E-10	2.9736E+15	1.7775E+14
Zr-95	3.1880E+00	1.4840E-07	9.4072E+17	3.5660E+14
Zr-97	2.8349E+00	1.4829E-09	9.2066E+15	3.2404E+14

Nb-95	3.1911E+00	8.1609E-08	5.1732E+17	3.5686E+14
Mo-99	4.0874E+01	8.5222E-08	5.1841E+17	4.5964E+15
Tc-99m	3.6961E+01	7.0292E-09	4.2759E+16	4.1315E+15
Ru-103	3.5953E+01	1.1140E-06	6.5133E+18	4.0222E+15
Ru-105	1.7920E+01	2.6659E-09	1.5290E+16	2.1811E+15
Ru-106	1.5704E+01	4.6940E-06	2.6668E+19	1.7562E+15
Rh-105	2.3560E+01	2.7913E-08	1.6009E+17	2.6392E+15
Sb-127	3.9074E+01	1.4631E-07	6.9380E+17	4.3870E+15
Sb-129	1.0159E+02	1.8066E-08	8.4340E+16	1.2395E+16
Te-127	3.9372E+01	1.4919E-08	7.0742E+16	4.4003E+15
Te-127m	6.7594E+00	7.1660E-07	3.3980E+18	7.5587E+14
Te-129	1.1672E+02	5.5735E-09	2.6019E+16	1.3598E+16
Te-129m	2.7811E+01	9.2317E-07	4.3097E+18	3.1102E+15
Te-131m	8.5832E+01	1.0764E-07	4.9482E+17	9.7173E+15
Te-132	6.2483E+02	2.0581E-06	9.3896E+18	7.0203E+16
I-131	2.8693E+03	2.3144E-05	1.0640E+20	4.0658E+17
I-132	3.1136E+03	3.0164E-07	1.3761E+18	4.8028E+17
I-133	5.5454E+03	4.8953E-06	2.2165E+19	8.0220E+17
I-134	1.1616E+03	4.3543E-08	1.9569E+17	3.0614E+17
I-135	4.5096E+03	1.2841E-06	5.7281E+18	6.8592E+17
Xe-133	1.8385E+05	9.8219E-04	4.4473E+21	1.5647E+19
Xe-135	6.3364E+04	2.4812E-05	1.1068E+20	5.4453E+18
Cs-134	6.0655E+02	4.6880E-04	2.1069E+21	8.9617E+16
Cs-136	1.6474E+02	2.2478E-06	9.9534E+18	2.4378E+16
Cs-137	4.8109E+02	5.5309E-03	2.4312E+22	7.1078E+16
Ba-139	1.0702E+02	6.5427E-09	2.8346E+16	1.5930E+16
Ba-140	3.2415E+02	4.4278E-06	1.9046E+19	3.6293E+16
La-140	8.8356E+00	1.5896E-08	6.8378E+16	7.7741E+14
La-141	2.0146E+00	3.5623E-10	1.5215E+15	2.4798E+14
La-142	1.0797E+00	7.5421E-11	3.1986E+14	1.5563E+14
Ce-141	7.4739E+00	2.6230E-07	1.1203E+18	8.3599E+14
Ce-143	6.6655E+00	1.0037E-08	4.2269E+16	7.5378E+14
Ce-144	6.4254E+00	2.0145E-06	8.4249E+18	7.1857E+14
Pr-143	2.7122E+00	4.0277E-08	1.6962E+17	3.0296E+14
Nd-147	1.1964E+00	1.4789E-08	6.0586E+16	1.3398E+14
Np-239	8.5745E+01	3.6961E-07	9.3130E+17	9.6515E+15
Pu-238	2.3047E-02	1.3463E-06	3.4064E+18	2.5773E+12
Pu-239	2.1780E-03	3.5040E-05	8.8292E+19	2.4354E+11
Pu-240	3.9891E-03	1.7506E-05	4.3927E+19	4.4609E+11
Pu-241	8.8089E-01	8.5513E-06	2.1368E+19	9.8508E+13
Am-241	5.7864E-04	1.6859E-07	4.2128E+17	6.4700E+10
Cm-242	1.4709E-01	4.4382E-08	1.1044E+17	1.6451E+13
Cm-244	8.5543E-03	1.0574E-07	2.6097E+17	9.5661E+11

Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	3.3388E+22	0.0000E+00	
Elemental I (atoms)	6.4928E+18	0.0000E+00	
Organic I (atoms)	2.1887E+18	0.0000E+00	
Aerosols (kg)	6.3159E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		6.1881E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.6260E-08
Total I (Ci)			1.7199E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

Noble gases (atoms)	2.5445E+22
Elemental I (atoms)	4.8516E+18
Organic I (atoms)	1.6791E+18
Aerosols (kg)	4.6287E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4461E+21

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Elemental I (atoms)    7.1589E+17  1.0084E+17
Organic I (atoms)      1.6361E+17  1.9185E+16
Aerosols (kg)          7.6949E-04  3.8395E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.2000  Leakage Transport

Noble gases (atoms)      1.0416E+22
Elemental I (atoms)      2.5745E+18
Organic I (atoms)        7.1994E+17
Aerosols (kg)            2.4878E-03

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7562E-03  3.0927E-03  1.9197E-03
Accumulated dose (rem)  2.0652E-02  1.2590E+00  7.5473E-02

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.3022E-04  1.6381E-03  1.0168E-03
Accumulated dose (rem)  1.4000E-02  1.6412E-01  2.1376E-02

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.8392E-05  2.1060E-02  9.4658E-04
Accumulated dose (rem)  1.0052E-03  4.0986E+00  1.7874E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  3.1706E+00  9.9709E-08  1.0353E+18  9.8154E+15
Co-60                  3.7981E+00  3.3600E-06  3.3724E+19  1.1754E+16
Kr-85                  8.6070E+05  2.1938E+00  1.5543E+25  1.4114E+20
Kr-85m                 8.9785E+06  1.0910E-03  7.7297E+21  1.6425E+21
Kr-87                  7.3346E+06  2.5894E-04  1.7924E+21  1.8127E+21
Kr-88                  2.0355E+07  1.6233E-03  1.1109E+22  3.9764E+21
Rb-86                  8.7551E+01  1.0760E-06  7.5347E+18  3.5656E+17
Sr-89                  4.2994E+03  1.4799E-04  1.0014E+21  1.3312E+19
Sr-90                  6.7714E+02  4.9641E-03  3.3216E+22  2.0955E+18
Sr-91                  4.6175E+03  1.2738E-06  8.4297E+18  1.5368E+19
Sr-92                  3.2098E+03  2.5537E-07  1.6716E+18  1.2875E+19
Y-90                   1.2123E+01  2.2282E-08  1.4909E+17  2.3395E+16
Y-91                   5.6260E+01  2.2941E-06  1.5182E+19  1.7225E+17
Y-92                   5.0925E+02  5.2924E-08  3.4643E+17  3.6469E+17
Y-93                   3.7799E+01  1.1330E-08  7.3364E+16  1.2525E+17
Zr-95                  7.9193E+01  3.6863E-06  2.3368E+19  2.4518E+17
Zr-97                  7.0135E+01  3.6688E-08  2.2777E+17  2.2607E+17
Nb-95                  7.9273E+01  2.0273E-06  1.2851E+19  2.4532E+17
Mo-99                  1.0143E+03  2.1148E-06  1.2865E+19  3.1717E+18
Tc-99m                 9.1795E+02  1.7457E-07  1.0619E+18  2.8454E+18
Ru-103                 8.9308E+02  2.7672E-05  1.6179E+20  2.7657E+18
Ru-105                 4.3826E+02  6.5198E-08  3.7394E+17  1.5866E+18
Ru-106                 3.9011E+02  1.1661E-04  6.6247E+20  1.2073E+18
Rh-105                 5.8498E+02  6.9307E-07  3.9750E+18  1.8164E+18
Sb-127                 9.6992E+02  3.6320E-06  1.7222E+19  3.0239E+18
Sb-129                 2.4836E+03  4.4166E-07  2.0618E+18  9.0312E+18
Te-127                 9.7795E+02  3.7056E-07  1.7571E+18  3.0281E+18
Te-127m                1.6791E+02  1.7801E-05  8.4412E+19  5.1961E+17
Te-129                 2.8734E+03  1.3721E-07  6.4052E+17  9.6845E+18
Te-129m                6.9085E+02  2.2933E-05  1.0706E+20  2.1381E+18
Te-131m                2.1273E+03  2.6678E-06  1.2264E+19  6.7357E+18
Te-132                 1.5508E+04  5.1082E-05  2.3305E+20  4.8414E+19
I-131                  7.8833E+04  6.3588E-04  2.9232E+21  2.2368E+20
I-132                  9.6736E+04  9.3717E-06  4.2756E+19  3.1711E+20
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I-133                  1.5186E+05  1.3405E-04  6.0699E+20  4.4687E+20
I-134                  2.9489E+04  1.1054E-06  4.9679E+18  2.4015E+20
I-135                  1.2261E+05  3.4914E-05  1.5574E+20  3.9398E+20
Xe-133                 9.9304E+07  5.3052E-01  2.4022E+24  1.6328E+22
Xe-135                 3.5020E+07  1.3713E-02  6.1173E+22  5.8623E+21
Cs-134                 1.1581E+04  8.9510E-03  4.0227E+22  4.7075E+19
Cs-136                 3.1448E+03  4.2909E-05  1.9000E+20  1.2818E+19
Cs-137                 9.1855E+03  1.0560E-01  4.6420E+23  3.7336E+19
Ba-139                 2.5281E+03  1.5456E-07  6.6963E+17  1.3182E+19
Ba-140                 8.0506E+03  1.0997E-04  4.7303E+20  2.4969E+19
La-140                 1.8309E+02  3.2940E-07  1.4169E+18  3.0053E+17
La-141                 4.9171E+01  8.6945E-09  3.7135E+16  1.8173E+17
La-142                 2.5641E+01  1.7912E-09  7.5964E+15  1.2623E+17
Ce-141                 1.8568E+02  6.5166E-06  2.7832E+19  5.7486E+17
Ce-143                 1.6523E+02  2.4882E-07  1.0478E+18  5.2210E+17
Ce-144                 1.5961E+02  5.0044E-05  2.0929E+20  4.9399E+17
Pr-143                 6.7318E+01  9.9969E-07  4.2100E+18  2.0790E+17
Nd-147                 2.9713E+01  3.6728E-07  1.5046E+18  9.2188E+16
Np-239                 2.1274E+03  9.1704E-06  2.3107E+19  6.6640E+18
Pu-238                 5.7254E-01  3.3443E-05  8.4622E+19  1.7717E+15
Pu-239                 5.4105E-02  8.7047E-04  2.1933E+21  1.6741E+14
Pu-240                 9.9096E-02  4.3488E-04  1.0912E+21  3.0666E+14
Pu-241                 2.1883E+01  2.1243E-04  5.3082E+20  6.7718E+16
Am-241                 1.4374E-02  4.1880E-06  1.0465E+19  4.4471E+13
Cm-242                 3.6540E+00  1.1025E-06  2.7435E+18  1.1309E+16
Cm-244                 2.1250E-01  2.6266E-06  6.4828E+18  6.5760E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8027E+25  0.0000E+00
Elemental I (atoms)    1.2982E+20  5.4908E+22
Organic I (atoms)      1.0609E+21  0.0000E+00
Aerosols (kg)          1.2226E-01  5.2002E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0246E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.9669E-05
Total I (Ci)                                   4.7953E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.3000  Leakage Transport

Noble gases (atoms)      2.7717E+22
Elemental I (atoms)      4.8715E+18
Organic I (atoms)        1.8129E+18
Aerosols (kg)            4.6473E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9412E+25
Elemental I (atoms)    0.0000E+00  5.1827E+21
Organic I (atoms)      0.0000E+00  1.9240E+21
Aerosols (kg)          0.0000E+00  4.9457E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8761E+25
Elemental I (atoms)    0.0000E+00  4.3053E+21
Organic I (atoms)      0.0000E+00  1.2775E+21
Aerosols (kg)          0.0000E+00  4.1556E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  1.2944E-01  4.0706E-09  4.2265E+16  1.6000E+13
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Co-60	1.5506E-01	1.3717E-07	1.3768E+18	1.9163E+13
Kr-85	1.7458E+03	4.4497E-03	3.1526E+22	1.5871E+17
Kr-85m	1.8211E+04	2.2129E-06	1.5678E+19	1.7885E+18
Kr-87	1.4877E+04	5.2521E-07	3.6355E+18	1.8061E+18
Kr-88	4.1287E+04	3.2926E-06	2.2533E+19	4.2470E+18
Rb-86	4.6232E+00	5.6819E-08	3.9787E+17	7.3991E+14
Sr-89	1.7552E+02	6.0416E-06	4.0880E+19	2.1699E+16
Sr-90	2.7644E+01	2.0266E-04	1.3560E+21	3.4165E+15
Sr-91	1.8851E+02	5.2002E-08	3.4414E+17	2.4295E+16
Sr-92	1.3104E+02	1.0425E-08	6.8242E+16	1.8831E+16
Y-90	6.0056E-01	1.1038E-09	7.3860E+15	5.9665E+13
Y-91	2.3117E+00	9.4265E-08	6.2382E+17	2.8382E+14
Y-92	3.0490E+01	3.1687E-09	2.0742E+16	2.7116E+15
Y-93	1.5431E+00	4.6253E-10	2.9951E+15	1.9838E+14
Zr-95	3.2330E+00	1.5049E-07	9.5398E+17	3.9966E+14
Zr-97	2.8632E+00	1.4978E-09	9.2987E+15	3.6226E+14
Nb-95	3.2363E+00	8.2763E-08	5.2464E+17	3.9996E+14
Mo-99	4.1409E+01	8.6338E-08	5.2519E+17	5.1483E+15
Tc-99m	3.7475E+01	7.1269E-09	4.3353E+16	4.6279E+15
Ru-103	3.6459E+01	1.1297E-06	6.6050E+18	4.5078E+15
Ru-105	1.7892E+01	2.6617E-09	1.5266E+16	2.4213E+15
Ru-106	1.5926E+01	4.7604E-06	2.7045E+19	1.9684E+15
Rh-105	2.3882E+01	2.8294E-08	1.6228E+17	2.9572E+15
Sb-127	3.9597E+01	1.4827E-07	7.0309E+17	4.9146E+15
Sb-129	1.0139E+02	1.8030E-08	8.4172E+16	1.3757E+16
Te-127	3.9925E+01	1.5128E-08	7.1735E+16	4.9302E+15
Te-127m	6.8550E+00	7.2674E-07	3.4461E+18	8.4718E+14
Te-129	1.1731E+02	5.6014E-09	2.6149E+16	1.5129E+16
Te-129m	2.8204E+01	9.3622E-07	4.3706E+18	3.4858E+15
Te-131m	8.6846E+01	1.0891E-07	5.0067E+17	1.0875E+16
Te-132	6.3311E+02	2.0854E-06	9.5140E+18	7.8640E+16
I-131	2.8981E+03	2.3376E-05	1.0746E+20	4.4519E+17
I-132	3.0812E+03	2.9850E-07	1.3618E+18	5.2169E+17
I-133	5.5843E+03	4.9296E-06	2.2321E+19	8.7671E+17
I-134	1.0844E+03	4.0650E-08	1.8269E+17	3.2117E+17
I-135	4.5088E+03	1.2839E-06	5.7272E+18	7.4630E+17
Xe-133	2.0122E+05	1.0750E-03	4.8676E+21	1.8328E+19
Xe-135	6.9075E+04	2.7049E-05	1.2066E+20	6.3685E+18
Cs-134	6.1154E+02	4.7266E-04	2.1242E+21	9.7762E+16
Cs-136	1.6606E+02	2.2658E-06	1.0033E+19	2.6590E+16
Cs-137	4.8505E+02	5.5764E-03	2.4512E+22	7.7539E+16
Ba-139	1.0321E+02	6.3099E-09	2.7337E+16	1.7340E+16
Ba-140	3.2866E+02	4.4894E-06	1.9311E+19	4.0671E+16
La-140	9.4632E+00	1.7025E-08	7.3235E+16	8.9602E+14
La-141	2.0074E+00	3.5495E-10	1.5160E+15	2.7496E+14
La-142	1.0468E+00	7.3126E-11	3.1012E+14	1.6989E+14
Ce-141	7.5792E+00	2.6600E-07	1.1361E+18	9.3695E+14
Ce-143	6.7456E+00	1.0158E-08	4.2778E+16	8.4372E+14
Ce-144	6.5162E+00	2.0430E-06	8.5440E+18	8.0537E+14
Pr-143	2.7514E+00	4.0859E-08	1.7207E+17	3.3960E+14
Nd-147	1.2130E+00	1.4994E-08	6.1427E+16	1.5014E+14
Np-239	8.6852E+01	3.7438E-07	9.4332E+17	1.0809E+16
Pu-238	2.3374E-02	1.3653E-06	3.4546E+18	2.8887E+12
Pu-239	2.2088E-03	3.5537E-05	8.9542E+19	2.7296E+11
Pu-240	4.0455E-03	1.7754E-05	4.4549E+19	4.9998E+11
Pu-241	8.9336E-01	8.6723E-06	2.1670E+19	1.1041E+14
Am-241	5.8684E-04	1.7098E-07	4.2726E+17	7.2517E+10
Cm-242	1.4917E-01	4.5009E-08	1.1200E+17	1.8438E+13
Cm-244	8.6753E-03	1.0723E-07	2.6466E+17	1.0722E+12

Reactor Building Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	3.6556E+22	0.0000E+00
Elemental I (atoms)	6.5420E+18	0.0000E+00
Organic I (atoms)	2.3704E+18	0.0000E+00
Aerosols (kg)	6.3696E-03	0.0000E+00

Dose Effective (Ci/cc) I-131 (Thyroid) 6.2430E-08

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Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.6835E-08
Total I (Ci)                                   1.7157E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.3000  Leakage Transport

Noble gases (atoms)      2.7717E+22
Elemental I (atoms)      4.8715E+18
Organic I (atoms)        1.8129E+18
Aerosols (kg)            4.6473E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8565E+21
Elemental I (atoms)    7.8480E+17  1.0850E+17
Organic I (atoms)      1.8770E+17  2.1862E+16
Aerosols (kg)          8.4246E-04  3.9884E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.3000  Leakage Transport

Noble gases (atoms)      1.1726E+22
Elemental I (atoms)      2.6906E+18
Organic I (atoms)        7.9842E+17
Aerosols (kg)            2.5970E-03

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1984E-02  5.5644E-02  4.4898E-02
Accumulated dose (rem)  6.2636E-02  1.3146E+00  1.2037E-01

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2238E-02  2.9473E-02  2.3781E-02
Accumulated dose (rem)  3.6237E-02  1.9359E-01  4.5158E-02

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.5234E-04  1.1389E-01  5.5515E-03
Accumulated dose (rem)  1.5575E-03  4.2125E+00  1.8430E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   4.0000       Ci           kg         Atoms      Decay
Co-58                  3.8534E+00  1.2118E-07  1.2583E+18  1.1223E+16
Co-60                  4.6192E+00  4.0864E-06  4.1015E+19  1.3440E+16
Kr-85                  8.2101E+05  2.0926E+00  1.4826E+25  3.2848E+20
Kr-85m                 6.5836E+06  8.0000E-04  5.6679E+21  3.3620E+21
Kr-87                  2.7697E+06  9.7782E-05  6.7685E+20  2.8560E+21
Kr-88                  1.2823E+07  1.0226E-03  6.9979E+21  7.6065E+21
Rb-86                  1.0659E+02  1.3100E-06  9.1735E+18  3.9553E+17
Sr-89                  5.2239E+03  1.7981E-04  1.2167E+21  1.5221E+19
Sr-90                  8.2355E+02  6.0374E-03  4.0398E+22  2.3962E+18
Sr-91                  4.9608E+03  1.3685E-06  9.0563E+18  1.7309E+19
Sr-92                  2.5273E+03  2.0107E-07  1.3161E+18  1.4057E+19
Y-90                   2.9819E+01  5.4809E-08  3.6674E+17  3.1147E+16
Y-91                   7.0272E+01  2.8655E-06  1.8963E+19  1.9753E+17
Y-92                   1.3589E+03  1.4123E-07  9.2445E+17  7.2758E+17
Y-93                   4.0910E+01  1.2262E-08  7.9401E+16  1.4119E+17
Zr-95                  9.6241E+01  4.4799E-06  2.8399E+19  2.8033E+17
Zr-97                  7.9554E+01  4.1615E-08  2.5836E+17  2.5626E+17
Nb-95                  9.6412E+01  2.4656E-06  1.5630E+19  2.8052E+17
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Mo-99	1.2118E+03	2.5266E-06	1.5369E+19	3.6185E+18
Tc-99m	1.1103E+03	2.1115E-07	1.2844E+18	3.2499E+18
Ru-103	1.0848E+03	3.3613E-05	1.9653E+20	3.1621E+18
Ru-105	4.0878E+02	6.0812E-08	3.4878E+17	1.7599E+18
Ru-106	4.7440E+02	1.4180E-04	8.0560E+20	1.3806E+18
Rh-105	7.0350E+02	8.3347E-07	4.7803E+18	2.0748E+18
Sb-127	1.1647E+03	4.3613E-06	2.0681E+19	3.4522E+18
Sb-129	2.2995E+03	4.0892E-07	1.9089E+18	1.0010E+19
Te-127	1.1866E+03	4.4961E-07	2.1320E+18	3.4604E+18
Te-127m	2.0422E+02	2.1651E-05	1.0266E+20	5.9418E+17
Te-129	2.9319E+03	1.4000E-07	6.5355E+17	1.0840E+19
Te-129m	8.3985E+02	2.7879E-05	1.3015E+20	2.4448E+18
Te-131m	2.4876E+03	3.1196E-06	1.4341E+19	7.6640E+18
Te-132	1.8579E+04	6.1197E-05	2.7920E+20	5.5254E+19
I-131	9.8733E+04	7.9639E-04	3.6611E+21	2.5488E+20
I-132	8.1163E+04	7.8630E-06	3.5873E+19	3.4875E+20
I-133	1.8080E+05	1.5960E-04	7.2265E+20	5.0559E+20
I-134	9.6888E+03	3.6319E-07	1.6322E+18	2.4686E+20
I-135	1.2926E+05	3.6807E-05	1.6419E+20	4.3884E+20
Xe-133	9.3834E+07	5.0130E-01	2.2698E+24	3.7841E+22
Xe-135	2.9282E+07	1.1466E-02	5.1150E+22	1.2999E+22
Cs-134	1.4136E+04	1.0926E-02	4.9102E+22	5.2236E+19
Cs-136	3.8245E+03	5.2183E-05	2.3107E+20	1.4217E+19
Cs-137	1.1213E+04	1.2891E-01	5.6665E+23	4.1430E+19
Ba-139	1.3078E+03	7.9952E-08	3.4639E+17	1.3968E+19
Ba-140	9.7536E+03	1.3323E-04	5.7309E+20	2.8538E+19
La-140	5.0411E+02	9.0696E-07	3.9013E+18	4.2616E+17
La-141	4.4310E+01	7.8350E-09	3.3464E+16	2.0089E+17
La-142	1.4521E+01	1.0144E-09	4.3020E+15	1.3449E+17
Ce-141	2.2556E+02	7.9162E-06	3.3810E+19	6.5728E+17
Ce-143	1.9391E+02	2.9200E-07	1.2297E+18	5.9432E+17
Ce-144	1.9409E+02	6.0854E-05	2.5449E+20	5.6486E+17
Pr-143	8.2300E+01	1.2222E-06	5.1469E+18	2.3786E+17
Nd-147	3.5976E+01	4.4470E-07	1.8218E+18	1.0536E+17
Np-239	2.5340E+03	1.0923E-05	2.7523E+19	7.6000E+18
Pu-238	6.9633E-01	4.0674E-05	1.0292E+20	2.0260E+15
Pu-239	6.5818E-02	1.0589E-03	2.6682E+21	1.9144E+14
Pu-240	1.2052E-01	5.2891E-04	1.3272E+21	3.5066E+14
Pu-241	2.6614E+01	2.5836E-04	6.4558E+20	7.7436E+16
Am-241	1.7490E-02	5.0960E-06	1.2734E+19	5.0856E+13
Cm-242	4.4427E+00	1.3405E-06	3.3357E+18	1.2932E+16
Cm-244	2.5845E-01	3.1945E-06	7.8844E+18	7.5197E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7160E+25	0.0000E+00	
Elemental I (atoms)	5.6977E+20	5.4908E+22	
Organic I (atoms)	9.9181E+20	0.0000E+00	
Aerosols (kg)	1.4919E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.9464E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9813E-05
Total I (Ci)			4.9964E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	6.4552E+22
Elemental I (atoms)	5.9325E+18
Organic I (atoms)	3.9659E+18
Aerosols (kg)	5.1583E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8495E+25
Elemental I (atoms)	0.0000E+00	6.3084E+21

Organic I (atoms)	0.0000E+00	4.2085E+21
Aerosols (kg)	0.0000E+00	5.4879E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7051E+25
Elemental I (atoms)	0.0000E+00	5.8847E+21
Organic I (atoms)	0.0000E+00	3.5207E+21
Aerosols (kg)	0.0000E+00	5.3380E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	1.3469E-01	4.2357E-09	4.3980E+16	4.6631E+13
Co-60	1.6146E-01	1.4283E-07	1.4336E+18	5.5870E+13
Kr-85	4.0629E+03	1.0356E-02	7.3369E+22	8.4060E+17
Kr-85m	3.2580E+04	3.9590E-06	2.8049E+19	7.9388E+18
Kr-87	1.3707E+04	4.8390E-07	3.3495E+18	5.3741E+18
Kr-88	6.3455E+04	5.0605E-06	3.4631E+19	1.7099E+19
Rb-86	4.5720E+00	5.6189E-08	3.9346E+17	1.7991E+15
Sr-89	1.8259E+02	6.2849E-06	4.2527E+19	6.3230E+16
Sr-90	2.8785E+01	2.1103E-04	1.4120E+21	9.9606E+15
Sr-91	1.7339E+02	4.7833E-08	3.1655E+17	6.6251E+16
Sr-92	8.8336E+01	7.0278E-09	4.6003E+16	4.3961E+16
Y-90	1.1186E+00	2.0561E-09	1.3758E+16	2.5410E+14
Y-91	2.4672E+00	1.0061E-07	6.6578E+17	8.3755E+14
Y-92	5.2628E+01	5.4694E-09	3.5801E+16	1.2438E+16
Y-93	1.4299E+00	4.2859E-10	2.7753E+15	5.4309E+14
Zr-95	3.3639E+00	1.5659E-07	9.9261E+17	1.1647E+15
Zr-97	2.7807E+00	1.4546E-09	9.0305E+15	1.0169E+15
Nb-95	3.3699E+00	8.6179E-08	5.4630E+17	1.1660E+15
Mo-99	4.2356E+01	8.8312E-08	5.3720E+17	1.4864E+16
Tc-99m	3.8808E+01	7.3803E-09	4.4894E+16	1.3427E+16
Ru-103	3.7918E+01	1.1749E-06	6.8691E+18	1.3133E+16
Ru-105	1.4288E+01	2.1256E-09	1.2191E+16	6.1390E+15
Ru-106	1.6582E+01	4.9563E-06	2.8158E+19	5.7383E+15
Rh-105	2.4589E+01	2.9132E-08	1.6709E+17	8.5778E+15
Sb-127	4.0709E+01	1.5244E-07	7.2285E+17	1.4229E+16
Sb-129	8.0374E+01	1.4293E-08	6.6723E+16	3.4750E+16
Te-127	4.1474E+01	1.5715E-08	7.4519E+16	1.4337E+16
Te-127m	7.1382E+00	7.5676E-07	3.5884E+18	2.4700E+15
Te-129	1.0248E+02	4.8933E-09	2.2844E+16	4.0036E+16
Te-129m	2.9355E+01	9.7444E-07	4.5490E+18	1.0161E+16
Te-131m	8.6949E+01	1.0904E-07	5.0126E+17	3.1034E+16
Te-132	6.4939E+02	2.1390E-06	9.7587E+18	2.2739E+17
I-131	2.9533E+03	2.3822E-05	1.0951E+20	1.1198E+18
I-132	2.2128E+03	2.1437E-07	9.7802E+17	1.1244E+18
I-133	5.4091E+03	4.7749E-06	2.1621E+19	2.1442E+18
I-134	2.8987E+02	1.0866E-08	4.8834E+16	4.6011E+17
I-135	3.8672E+03	1.1012E-06	4.9123E+18	1.7103E+18
Xe-133	4.6425E+05	2.4802E-03	1.1230E+22	9.6549E+19
Xe-135	1.4397E+05	5.6377E-05	2.5149E+20	3.1815E+19
Cs-134	6.0632E+02	4.6862E-04	2.1060E+21	2.3805E+17
Cs-136	1.6404E+02	2.2382E-06	9.9109E+18	6.4617E+16
Cs-137	4.8093E+02	5.5291E-03	2.4304E+22	1.8882E+17
Ba-139	4.5710E+01	2.7945E-09	1.2107E+16	3.3728E+16
Ba-140	3.4092E+02	4.6568E-06	2.0031E+19	1.1832E+17
La-140	1.9042E+01	3.4258E-08	1.4736E+17	4.1113E+15
La-141	1.5488E+00	2.7386E-10	1.1697E+15	6.8524E+14
La-142	5.0756E-01	3.5457E-11	1.5037E+14	3.4280E+14
Ce-141	7.8832E+00	2.7667E-07	1.1816E+18	2.7301E+15
Ce-143	6.7778E+00	1.0206E-08	4.2981E+16	2.4123E+15
Ce-144	6.7841E+00	2.1270E-06	8.8953E+18	2.3478E+15
Pr-143	2.8789E+00	4.2753E-08	1.8005E+17	9.9235E+14
Nd-147	1.2575E+00	1.5544E-08	6.3678E+16	4.3665E+14

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Np-239                 8.8572E+01  3.8179E-07  9.6201E+17  3.1156E+16
Pu-238                 2.4339E-02  1.4217E-06  3.5973E+18  8.4219E+12
Pu-239                 2.3005E-03  3.7012E-05  9.3260E+19  7.9591E+11
Pu-240                 4.2126E-03  1.8487E-05  4.6388E+19  1.4577E+12
Pu-241                 9.3024E-01  9.0303E-06  2.2565E+19  3.2189E+14
Am-241                 6.1136E-04  1.7813E-07  4.4510E+17  2.1147E+11
Cm-242                 1.5529E-01  4.6853E-08  1.1659E+17  5.3746E+13
Cm-244                 9.0335E-03  1.1166E-07  2.7558E+17  3.1258E+12

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    8.4917E+22  0.0000E+00
Elemental I (atoms)    7.0598E+18  0.0000E+00
Organic I (atoms)      5.0753E+18  0.0000E+00
Aerosols (kg)          6.3294E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.2453E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.5425E-08
Total I (Ci)                                   1.4732E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      6.4552E+22
Elemental I (atoms)      5.9325E+18
Organic I (atoms)        3.9659E+18
Aerosols (kg)            5.1583E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5138E+22
Elemental I (atoms)    2.0088E+18  2.4450E+17
Organic I (atoms)      8.6683E+17  9.7321E+16
Aerosols (kg)          2.1060E-03  6.5671E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      3.5657E+22
Elemental I (atoms)      3.6778E+18
Organic I (atoms)        2.2004E+18
Aerosols (kg)            3.3361E-03

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1655E-01  1.3224E-01  1.2317E-01
Accumulated dose (rem)  1.7918E-01  1.4469E+00  2.4354E-01

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1731E-02  7.0045E-02  6.5239E-02
Accumulated dose (rem)  9.7968E-02  2.6364E-01  1.1040E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7125E-03  1.7697E-02  2.5596E-03
Accumulated dose (rem)  3.2700E-03  4.2302E+00  1.8685E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
Co-58                  4.7205E+00  1.4845E-07  1.5414E+18  1.3716E+16
Co-60                  5.6676E+00  5.0139E-06  5.0324E+19  1.6431E+16
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Kr-85	8.1678E+05	2.0819E+00	1.4750E+25	7.6473E+20
Kr-85m	3.5273E+06	4.2862E-04	3.0367E+21	5.9711E+21
Kr-87	3.1140E+05	1.0993E-05	7.6097E+19	3.4552E+21
Kr-88	4.8056E+06	3.8324E-04	2.6227E+21	1.1958E+22
Rb-86	1.2999E+02	1.5975E-06	1.1187E+19	4.6433E+17
Sr-89	6.3952E+03	2.2013E-04	1.4895E+21	1.8599E+19
Sr-90	1.0105E+03	7.4080E-03	4.9569E+22	2.9294E+18
Sr-91	4.5463E+03	1.2541E-06	8.2996E+18	2.0090E+19
Sr-92	1.1148E+03	8.8689E-08	5.8054E+17	1.5076E+19
Y-90	7.7904E+01	1.4319E-07	9.5811E+17	6.1249E+16
Y-91	9.0429E+01	3.6874E-06	2.4402E+19	2.4418E+17
Y-92	1.7584E+03	1.8274E-07	1.1962E+18	1.6915E+18
Y-93	3.8147E+01	1.1434E-08	7.4039E+16	1.6433E+17
Zr-95	1.1788E+02	5.4871E-06	3.4783E+19	3.4259E+17
Zr-97	8.2845E+01	4.3337E-08	2.6905E+17	3.0373E+17
Nb-95	1.1830E+02	3.0252E-06	1.9177E+19	3.4294E+17
Mo-99	1.4257E+03	2.9727E-06	1.8083E+19	4.3868E+18
Tc-99m	1.3344E+03	2.5378E-07	1.5437E+18	3.9580E+18
Ru-103	1.3272E+03	4.1123E-05	2.4043E+20	3.8634E+18
Ru-105	2.6862E+02	3.9962E-08	2.2919E+17	1.9561E+18
Ru-106	5.8192E+02	1.7394E-04	9.8818E+20	1.6877E+18
Rh-105	8.2616E+02	9.7880E-07	5.6138E+18	2.5209E+18
Sb-127	1.3869E+03	5.1932E-06	2.4625E+19	4.1950E+18
Sb-129	1.4851E+03	2.6409E-07	1.2329E+18	1.1105E+19
Te-127	1.4427E+03	5.4667E-07	2.5922E+18	4.2227E+18
Te-127m	2.5059E+02	2.6566E-05	1.2597E+20	7.2641E+17
Te-129	2.2859E+03	1.0915E-07	5.0956E+17	1.2325E+19
Te-129m	1.0286E+03	3.4143E-05	1.5939E+20	2.9881E+18
Te-131m	2.7829E+03	3.4899E-06	1.6043E+19	9.2018E+18
Te-132	2.2003E+04	7.2475E-05	3.3065E+20	6.7071E+19
I-131	1.1179E+05	9.0173E-04	4.1453E+21	3.1450E+20
I-132	4.3830E+04	4.2462E-06	1.9372E+19	3.8226E+20
I-133	1.8170E+05	1.6040E-04	7.2628E+20	6.0848E+20
I-134	4.7077E+02	1.7647E-08	7.9309E+16	2.4862E+20
I-135	9.7580E+04	2.7786E-05	1.2395E+20	5.0295E+20
Xe-133	9.1321E+07	4.8788E-01	2.2091E+24	8.7157E+22
Xe-135	2.1500E+07	8.4192E-03	3.7557E+22	2.6419E+22
Cs-134	1.7343E+04	1.3404E-02	6.0240E+22	6.1388E+19
Cs-136	4.6516E+03	6.3468E-05	2.8104E+20	1.6683E+19
Cs-137	1.3758E+04	1.5817E-01	6.9529E+23	4.8690E+19
Ba-139	2.1467E+02	1.3124E-08	5.6861E+16	1.4329E+19
Ba-140	1.1860E+04	1.6200E-04	6.9685E+20	3.4825E+19
La-140	1.3707E+03	2.4660E-06	1.0608E+19	9.5010E+17
La-141	2.6851E+01	4.7479E-09	2.0278E+16	2.2140E+17
La-142	2.9499E+00	2.0607E-10	8.7393E+14	1.3880E+17
Ce-141	2.7593E+02	9.6838E-06	4.1360E+19	8.0310E+17
Ce-143	2.1876E+02	3.2942E-07	1.3873E+18	7.1469E+17
Ce-144	2.3806E+02	7.4639E-05	3.1214E+20	6.9051E+17
Pr-143	1.0206E+02	1.5157E-06	6.3829E+18	2.9143E+17
Nd-147	4.3681E+01	5.3995E-07	2.2120E+18	1.2853E+17
Np-239	2.9605E+03	1.2761E-05	3.2155E+19	9.2008E+18
Pu-238	8.5444E-01	4.9910E-05	1.2629E+20	2.4769E+15
Pu-239	8.0801E-02	1.3000E-03	3.2755E+21	2.3407E+14
Pu-240	1.4788E-01	6.4899E-04	1.6285E+21	4.2870E+14
Pu-241	3.2655E+01	3.1700E-04	7.9213E+20	9.4668E+16
Am-241	2.1485E-02	6.2598E-06	1.5642E+19	6.2187E+13
Cm-242	5.4474E+00	1.6436E-06	4.0901E+18	1.5807E+16
Cm-244	3.1712E-01	3.9197E-06	9.6742E+18	9.1931E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7002E+25	0.0000E+00	
Elemental I (atoms)	5.4143E+20	5.4908E+22	
Organic I (atoms)	9.3978E+20	0.0000E+00	
Aerosols (kg)	1.8302E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.3947E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.3219E-05

Total I (Ci) 4.3538E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	1.4995E+23
Elemental I (atoms)	8.7121E+18
Organic I (atoms)	8.7917E+18
Aerosols (kg)	6.0628E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5911E+26
Elemental I (atoms)	0.0000E+00	9.2578E+21
Organic I (atoms)	0.0000E+00	9.3289E+21
Aerosols (kg)	0.0000E+00	6.4475E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4766E+26
Elemental I (atoms)	0.0000E+00	8.8356E+21
Organic I (atoms)	0.0000E+00	8.6410E+21
Aerosols (kg)	0.0000E+00	6.3324E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	1.1550E-01	3.6324E-09	3.7715E+16	1.1277E+14
Co-60	1.3867E-01	1.2268E-07	1.2313E+18	1.3521E+14
Kr-85	7.9745E+03	2.0326E-02	1.4401E+23	4.1561E+18
Kr-85m	3.4438E+04	4.1847E-06	2.9648E+19	2.7127E+19
Kr-87	3.0403E+03	1.0733E-07	7.4295E+17	9.4387E+18
Kr-88	4.6918E+04	3.7417E-06	2.5606E+19	4.8498E+19
Rb-86	3.7064E+00	4.5552E-08	3.1898E+17	3.9813E+15
Sr-89	1.5648E+02	5.3861E-06	3.6445E+19	1.5286E+17
Sr-90	2.4725E+01	1.8126E-04	1.2129E+21	2.4106E+16
Sr-91	1.1124E+02	3.0686E-08	2.0307E+17	1.4043E+17
Sr-92	2.7276E+01	2.1700E-09	1.4205E+16	7.1486E+16
Y-90	1.9519E+00	3.5876E-09	2.4005E+16	1.0742E+15
Y-91	2.2195E+00	9.0503E-08	5.9893E+17	2.0787E+15
Y-92	4.4489E+01	4.6236E-09	3.0265E+16	3.9526E+16
Y-93	9.3338E-01	2.7976E-10	1.8116E+15	1.1597E+15
Zr-95	2.8842E+00	1.3426E-07	8.5106E+17	2.8164E+15
Zr-97	2.0271E+00	1.0604E-09	6.5831E+15	2.2798E+15
Nb-95	2.8944E+00	7.4020E-08	4.6922E+17	2.8220E+15
Mo-99	3.4885E+01	7.2735E-08	4.4244E+17	3.5258E+16
Tc-99m	3.2651E+01	6.2094E-09	3.7772E+16	3.2218E+16
Ru-103	3.2474E+01	1.0062E-06	5.8829E+18	3.1740E+16
Ru-105	6.5726E+00	9.7778E-10	5.6079E+15	1.1402E+16
Ru-106	1.4238E+01	4.2559E-06	2.4179E+19	1.3886E+16
Rh-105	2.0214E+01	2.3949E-08	1.3736E+17	2.0421E+16
Sb-127	3.3934E+01	1.2707E-07	6.0253E+17	3.3944E+16
Sb-129	3.6337E+01	6.4618E-09	3.0166E+16	6.4135E+16
Te-127	3.5300E+01	1.3376E-08	6.3426E+16	3.4562E+16
Te-127m	6.1314E+00	6.5002E-07	3.0823E+18	5.9778E+15
Te-129	5.5931E+01	2.6707E-09	1.2468E+16	7.9759E+16
Te-129m	2.5167E+01	8.3539E-07	3.8999E+18	2.4574E+16
Te-131m	6.8091E+01	8.5391E-08	3.9255E+17	7.1895E+16
Te-132	5.3836E+02	1.7733E-06	8.0902E+18	5.4106E+17
I-131	2.5649E+03	2.0689E-05	9.5109E+19	2.5800E+18
I-132	9.8887E+02	9.5801E-08	4.3706E+17	1.9068E+18
I-133	4.1695E+03	3.6807E-06	1.6666E+19	4.6688E+18
I-134	1.0803E+01	4.0495E-10	1.8199E+15	5.0509E+17

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I-135                  2.2392E+03  6.3760E-07  2.8442E+18  3.2897E+18
Xe-133                 8.9159E+05  4.7632E-03  2.1567E+22  4.7089E+20
Xe-135                 2.0984E+05  8.2168E-05  3.6654E+20  1.3196E+20
Cs-134                 4.9451E+02  3.8221E-04  1.7177E+21  5.2828E+17
Cs-136                 1.3264E+02  1.8097E-06  8.0136E+18  1.4281E+17
Cs-137                 3.9231E+02  4.5102E-03  1.9826E+22  4.1904E+17
Ba-139                 5.2526E+00  3.2112E-10  1.3913E+15  4.3635E+16
Ba-140                 2.9019E+02  3.9638E-06  1.7051E+19  2.8512E+17
La-140                 3.4368E+01  6.1831E-08  2.6597E+17  1.8409E+16
La-141                 6.5699E-01  1.1617E-10  4.9617E+14  1.2361E+15
La-142                 7.2178E-02  5.0421E-12  2.1383E+13  4.6106E+14
Ce-141                 6.7508E+00  2.3692E-07  1.0119E+18  6.5985E+15
Ce-143                 5.3526E+00  8.0602E-09  3.3944E+16  5.6104E+15
Ce-144                 5.8248E+00  1.8263E-06  7.6375E+18  5.6810E+15
Pr-143                 2.4987E+00  3.7107E-08  1.5627E+17  2.4142E+15
Nd-147                 1.0688E+00  1.3212E-08  5.4123E+16  1.0514E+15
Np-239                 7.2437E+01  3.1224E-07  7.8676E+17  7.3658E+16
Pu-238                 2.0906E-02  1.2212E-06  3.0900E+18  2.0383E+13
Pu-239                 1.9770E-03  3.1807E-05  8.0145E+19  1.9267E+12
Pu-240                 3.6184E-03  1.5879E-05  3.9845E+19  3.5278E+12
Pu-241                 7.9901E-01  7.7564E-06  1.9382E+19  7.7902E+14
Am-241                 5.2570E-04  1.5317E-07  3.8274E+17  5.1206E+11
Cm-242                 1.3329E-01  4.0216E-08  1.0008E+17  1.3003E+14
Cm-244                 7.7591E-03  9.5907E-08  2.3671E+17  7.5651E+12

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    1.6600E+23  0.0000E+00
Elemental I (atoms)    7.8099E+18  0.0000E+00
Organic I (atoms)      9.2776E+18  0.0000E+00
Aerosols (kg)          5.1750E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.2261E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.1236E-08
Total I (Ci)                                   9.9733E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      1.4995E+23
Elemental I (atoms)      8.7121E+18
Organic I (atoms)        8.7917E+18
Aerosols (kg)            6.0628E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5564E+22
Elemental I (atoms)    5.1706E+18  5.9581E+17
Organic I (atoms)      3.9886E+18  4.4418E+17
Aerosols (kg)          4.7313E-03  1.1925E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      9.2288E+22
Elemental I (atoms)      5.5221E+18
Organic I (atoms)        5.4006E+18
Aerosols (kg)            3.9576E-03

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6426E-01  2.5452E-01  1.7624E-01
Accumulated dose (rem)  3.4344E-01  1.7014E+00  4.1978E-01

Low Population Zone Doses:
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Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7029E-02	4.5445E-02	5.9168E-02
Accumulated dose (rem)	1.5500E-01	3.0908E-01	1.6956E-01

Control Room Doses:

Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8296E-03	1.4151E-02	2.5013E-03
Accumulated dose (rem)	5.0996E-03	4.2443E+00	1.8936E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	4.6583E+00	1.4650E-07	1.5211E+18	1.8712E+16
Co-60	5.6105E+00	4.9634E-06	4.9817E+19	2.2439E+16
Kr-85	8.0863E+05	2.0611E+00	1.4603E+25	1.6305E+21
Kr-85m	1.0129E+06	1.2308E-04	8.7198E+20	8.1180E+21
Kr-87	3.9374E+03	1.3900E-07	9.6218E+17	3.5302E+21
Kr-88	6.7520E+05	5.3847E-05	3.6849E+20	1.4200E+22
Rb-86	1.2711E+02	1.5622E-06	1.0939E+19	6.0127E+17
Sr-89	6.3027E+03	2.1694E-04	1.4679E+21	2.5363E+19
Sr-90	1.0004E+03	7.3342E-03	4.9075E+22	4.0005E+18
Sr-91	2.5108E+03	6.9264E-07	4.5837E+18	2.3743E+19
Sr-92	1.4262E+02	1.1347E-08	7.4274E+16	1.5579E+19
Y-90	1.5397E+02	2.8300E-07	1.8936E+18	1.8280E+17
Y-91	9.4820E+01	3.8664E-06	2.5587E+19	3.4301E+17
Y-92	6.6222E+02	6.8821E-08	4.5049E+17	2.9328E+18
Y-93	2.1811E+01	6.5375E-09	4.2333E+16	1.9546E+17
Zr-95	1.1628E+02	5.4129E-06	3.4313E+19	4.6731E+17
Zr-97	5.9078E+01	3.0904E-08	1.9186E+17	3.7862E+17
Nb-95	1.1711E+02	2.9948E-06	1.8984E+19	4.6830E+17
Mo-99	1.2978E+03	2.7059E-06	1.6460E+19	5.8364E+18
Tc-99m	1.2612E+03	2.3986E-07	1.4590E+18	5.3034E+18
Ru-103	1.3063E+03	4.0475E-05	2.3665E+20	5.2661E+18
Ru-105	7.6279E+01	1.1348E-08	6.5083E+16	2.1189E+18
Ru-106	5.7577E+02	1.7210E-04	9.7774E+20	2.3043E+18
Rh-105	7.2099E+02	8.5420E-07	4.8991E+18	3.3455E+18
Sb-127	1.2931E+03	4.8421E-06	2.2960E+19	5.6219E+18
Sb-129	4.0733E+02	7.2435E-08	3.3815E+17	1.1993E+19
Te-127	1.3970E+03	5.2935E-07	2.5101E+18	5.7097E+18
Te-127m	2.4808E+02	2.6300E-05	1.2471E+20	9.9201E+17
Te-129	1.3849E+03	6.6130E-08	3.0871E+17	1.3913E+19
Te-129m	1.0126E+03	3.3613E-05	1.5691E+20	4.0755E+18
Te-131m	2.2902E+03	2.8721E-06	1.3203E+19	1.1896E+19
Te-132	2.0293E+04	6.6842E-05	3.0495E+20	8.9588E+19
I-131	1.0760E+05	8.6792E-04	3.9899E+21	4.3134E+20
I-132	2.4869E+04	2.4093E-06	1.0992E+19	4.1302E+20
I-133	1.3780E+05	1.2164E-04	5.5078E+20	7.7758E+20
I-134	8.3450E-01	3.1282E-11	1.4059E+14	2.4870E+20
I-135	4.1753E+04	1.1889E-05	5.3035E+19	5.7302E+20
Xe-133	8.6523E+07	4.6224E-01	2.0930E+24	1.8186E+23
Xe-135	1.1590E+07	4.5386E-03	2.0246E+22	4.3505E+22
Cs-134	1.7165E+04	1.3267E-02	5.9623E+22	7.9768E+19
Cs-136	4.5248E+03	6.1738E-05	2.7338E+20	2.1570E+19
Cs-137	1.3621E+04	1.5660E-01	6.8836E+23	6.3273E+19
Ba-139	3.8039E+00	2.3255E-10	1.0075E+15	1.4384E+19
Ba-140	1.1531E+04	1.5751E-04	6.7752E+20	4.7283E+19
La-140	2.6850E+03	4.8306E-06	2.0779E+19	3.0816E+18
La-141	6.4839E+00	1.1465E-09	4.8968E+15	2.3667E+17
La-142	8.0051E-02	5.5921E-12	2.3716E+13	1.3965E+17
Ce-141	2.7135E+02	9.5231E-06	4.0673E+19	1.0946E+18
Ce-143	1.8308E+02	2.7569E-07	1.1610E+18	9.2817E+17
Ce-144	2.3550E+02	7.3836E-05	3.0879E+20	9.4275E+17
Pr-143	1.0271E+02	1.5253E-06	6.4234E+18	4.0046E+17
Nd-147	4.2346E+01	5.2345E-07	2.1444E+18	1.7435E+17
Np-239	2.6571E+03	1.1454E-05	2.8860E+19	1.2190E+19

Pu-238	8.4597E-01	4.9415E-05	1.2504E+20	3.3826E+15
Pu-239	8.0070E-02	1.2882E-03	3.2459E+21	3.1975E+14
Pu-240	1.4641E-01	6.4253E-04	1.6123E+21	5.8546E+14
Pu-241	3.2329E+01	3.1384E-04	7.8421E+20	1.2928E+17
Am-241	2.1318E-02	6.2113E-06	1.5521E+19	8.4984E+13
Cm-242	5.3856E+00	1.6250E-06	4.0437E+18	2.1578E+16
Cm-244	3.1395E-01	3.8806E-06	9.5776E+18	1.2554E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6717E+25	0.0000E+00	
Elemental I (atoms)	4.9713E+20	5.4908E+22	
Organic I (atoms)	8.6289E+20	0.0000E+00	
Aerosols (kg)	1.8112E-01	5.2615E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.9029E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5315E-05
Total I (Ci)			3.1202E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Leakage Transport
Noble gases (atoms)	3.1856E+23
Elemental I (atoms)	1.3903E+19
Organic I (atoms)	1.7802E+19
Aerosols (kg)	7.8834E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3801E+26
Elemental I (atoms)	0.0000E+00	1.4766E+22
Organic I (atoms)	0.0000E+00	1.8889E+22
Aerosols (kg)	0.0000E+00	8.3794E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2656E+26
Elemental I (atoms)	0.0000E+00	1.4343E+22
Organic I (atoms)	0.0000E+00	1.8201E+22
Aerosols (kg)	0.0000E+00	8.2643E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	9.5497E-02	3.0033E-09	3.1183E+16	2.2316E+14
Co-60	1.1502E-01	1.0175E-07	1.0213E+18	2.6796E+14
Kr-85	1.1880E+04	3.0279E-02	2.1452E+23	1.5157E+19
Kr-85m	1.4880E+04	1.8081E-06	1.2810E+19	5.3292E+19
Kr-87	5.7843E+01	2.0421E-09	1.4135E+16	1.0278E+19
Kr-88	9.9192E+03	7.9106E-07	5.4135E+18	7.5200E+19
Rb-86	2.8090E+00	3.4522E-08	2.4174E+17	7.3620E+15
Sr-89	1.2921E+02	4.4474E-06	3.0093E+19	3.0233E+17
Sr-90	2.0509E+01	1.5035E-04	1.0061E+21	4.7776E+16
Sr-91	5.1472E+01	1.4199E-08	9.3967E+16	2.2186E+17
Sr-92	2.9238E+00	2.3261E-10	1.5226E+15	8.2955E+16
Y-90	3.1728E+00	5.8317E-09	3.9021E+16	3.7646E+15
Y-91	1.9465E+00	7.9373E-08	5.2527E+17	4.2653E+15
Y-92	1.3695E+01	1.4233E-09	9.3166E+15	6.7935E+16
Y-93	4.4714E-01	1.3402E-10	8.6784E+14	1.8535E+15
Zr-95	2.3839E+00	1.1097E-07	7.0342E+17	5.5726E+15
Zr-97	1.2111E+00	6.3354E-10	3.9333E+15	3.9429E+15
Nb-95	2.4007E+00	6.1395E-08	3.8919E+17	5.5922E+15
Mo-99	2.6605E+01	5.5472E-08	3.3744E+17	6.7333E+16
Tc-99m	2.5855E+01	4.9171E-09	2.9911E+16	6.2002E+16

Ru-103	2.6779E+01	8.2975E-07	4.8513E+18	6.2739E+16
Ru-105	1.5637E+00	2.3263E-10	1.3342E+15	1.5068E+16
Ru-106	1.1803E+01	3.5281E-06	2.0044E+19	2.7512E+16
Rh-105	1.4781E+01	1.7511E-08	1.0043E+17	3.8679E+16
Sb-127	2.6509E+01	9.9264E-08	4.7069E+17	6.5505E+16
Sb-129	8.3505E+00	1.4849E-09	6.9322E+15	8.4135E+16
Te-127	2.8639E+01	1.0852E-08	5.1457E+16	6.7456E+16
Te-127m	5.0857E+00	5.3916E-07	2.5566E+18	1.1847E+16
Te-129	2.8391E+01	1.3557E-09	6.3288E+15	1.1530E+17
Te-129m	2.0758E+01	6.8907E-07	3.2168E+18	4.8603E+16
Te-131m	4.6950E+01	5.8879E-08	2.7067E+17	1.3159E+17
Te-132	4.1601E+02	1.3703E-06	6.2515E+18	1.0392E+18
I-131	2.1411E+03	1.7270E-05	7.9392E+19	5.0492E+18
I-132	5.0689E+02	4.9107E-08	2.2404E+17	2.5692E+18
I-133	2.7421E+03	2.4206E-06	1.0960E+19	8.2532E+18
I-134	1.6606E-02	6.2249E-13	2.7976E+12	5.0686E+17
I-135	8.3086E+02	2.3659E-07	1.0554E+18	4.7852E+18
Xe-133	1.2711E+06	6.7909E-03	3.0749E+22	1.6726E+21
Xe-135	1.7038E+05	6.6720E-05	2.9763E+20	3.4474E+20
Cs-134	3.7933E+02	2.9318E-04	1.3176E+21	9.8194E+17
Cs-136	9.9994E+01	1.3643E-06	6.0414E+18	2.6349E+17
Cs-137	3.0101E+02	3.4606E-03	1.5212E+22	7.7899E+17
Ba-139	7.7980E-02	4.7674E-12	2.0655E+13	4.4930E+16
Ba-140	2.3639E+02	3.2289E-06	1.3889E+19	5.6050E+17
La-140	5.5326E+01	9.9538E-08	4.2816E+17	6.5603E+16
La-141	1.3292E-01	2.3504E-11	1.0039E+14	1.5808E+15
La-142	1.6411E-03	1.1464E-13	4.8618E+11	4.8070E+14
Ce-141	5.5625E+00	1.9522E-07	8.3379E+17	1.3040E+16
Ce-143	3.7533E+00	5.6518E-09	2.3801E+16	1.0340E+16
Ce-144	4.8278E+00	1.5137E-06	6.3302E+18	1.1255E+16
Pr-143	2.1061E+00	3.1277E-08	1.3172E+17	4.8239E+15
Nd-147	8.6811E-01	1.0731E-08	4.3961E+16	2.0643E+15
Np-239	5.4472E+01	2.3480E-07	5.9164E+17	1.3982E+17
Pu-238	1.7343E-02	1.0130E-06	2.5633E+18	4.0397E+13
Pu-239	1.6415E-03	2.6409E-05	6.6542E+19	3.8201E+12
Pu-240	3.0015E-03	1.3172E-05	3.3052E+19	6.9918E+12
Pu-241	6.6276E-01	6.4337E-06	1.6077E+19	1.5439E+15
Am-241	4.3704E-04	1.2734E-07	3.1819E+17	1.0158E+12
Cm-242	1.1041E-01	3.3312E-08	8.2897E+16	2.5754E+14
Cm-244	6.4361E-03	7.9553E-08	1.9634E+17	1.4993E+13

Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump	
Noble gases (atoms)	2.4559E+23	0.0000E+00	
Elemental I (atoms)	8.2195E+18	0.0000E+00	
Organic I (atoms)	1.2715E+19	0.0000E+00	
Aerosols (kg)	3.9856E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.1194E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.6481E-08
Total I (Ci)			6.2209E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.1856E+23
Elemental I (atoms)	1.3903E+19
Organic I (atoms)	1.7802E+19
Aerosols (kg)	7.8834E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7492E+23
Elemental I (atoms)	1.2023E+19	1.3572E+18
Organic I (atoms)	1.3612E+19	1.5134E+18
Aerosols (kg)	8.8627E-03	2.0356E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	2.0410E+23
Elemental I (atoms)	8.9644E+18
Organic I (atoms)	1.1376E+19
Aerosols (kg)	5.1650E-03

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0239E-01	2.3896E-01	1.1327E-01
Accumulated dose (rem)	4.4584E-01	1.9403E+00	5.3306E-01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5549E-02	4.2666E-02	3.7492E-02
Accumulated dose (rem)	1.9055E-01	3.5175E-01	2.0706E-01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1207E-03	1.2802E-02	1.7052E-03
Accumulated dose (rem)	6.2203E-03	4.2571E+00	1.9106E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.5970E+00	1.4457E-07	1.5010E+18	2.3640E+16
Co-60	5.5541E+00	4.9134E-06	4.9315E+19	2.8383E+16
Kr-85	8.0055E+05	2.0405E+00	1.4456E+25	2.4873E+21
Kr-85m	2.9084E+05	3.5341E-05	2.5039E+20	8.7342E+21
Kr-87	4.9785E+01	1.7576E-09	1.2166E+16	3.5311E+21
Kr-88	9.4867E+04	7.5656E-06	5.1774E+19	1.4515E+22
Rb-86	1.2430E+02	1.5276E-06	1.0697E+19	7.3513E+17
Sr-89	6.2115E+03	2.1380E-04	1.4467E+21	3.2026E+19
Sr-90	9.9045E+02	7.2610E-03	4.8585E+22	5.0606E+18
Sr-91	1.3867E+03	3.8253E-07	2.5315E+18	2.5759E+19
Sr-92	1.8247E+01	1.4517E-09	9.5027E+15	1.5644E+19
Y-90	2.2243E+02	4.0884E-07	2.7357E+18	3.7814E+17
Y-91	9.6624E+01	3.9400E-06	2.6074E+19	4.4490E+17
Y-92	1.7745E+02	1.8441E-08	1.2071E+17	3.3242E+18
Y-93	1.2471E+01	3.7379E-09	2.4205E+16	2.1325E+17
Zr-95	1.1471E+02	5.3397E-06	3.3849E+19	5.9031E+17
Zr-97	4.2129E+01	2.2038E-08	1.3682E+17	4.3200E+17
Nb-95	1.1593E+02	2.9647E-06	1.8793E+19	5.9234E+17
Mo-99	1.1813E+03	2.4631E-06	1.4983E+19	7.1555E+18
Tc-99m	1.1838E+03	2.2514E-07	1.3695E+18	6.5395E+18
Ru-103	1.2857E+03	3.9837E-05	2.3292E+20	6.6462E+18
Ru-105	2.1660E+01	3.2223E-09	1.8481E+16	2.1651E+18
Ru-106	5.6968E+02	1.7028E-04	9.6740E+20	2.9142E+18
Rh-105	6.1643E+02	7.3032E-07	4.1887E+18	4.0564E+18
Sb-127	1.2057E+03	4.5147E-06	2.1408E+19	6.9518E+18
Sb-129	1.1172E+02	1.9868E-08	9.2748E+16	1.2236E+19
Te-127	1.3476E+03	5.1063E-07	2.4213E+18	7.1218E+18
Te-127m	2.4556E+02	2.6034E-05	1.2345E+20	1.2548E+18
Te-129	1.0181E+03	4.8615E-08	2.2695E+17	1.4874E+19
Te-129m	9.9599E+02	3.3061E-05	1.5434E+20	5.1449E+18
Te-131m	1.8848E+03	2.3636E-06	1.0866E+19	1.4112E+19
Te-132	1.8716E+04	6.1647E-05	2.8125E+20	1.1035E+20
I-131	1.0356E+05	8.3531E-04	3.8400E+21	5.4376E+20
I-132	2.2396E+04	2.1697E-06	9.8989E+18	4.3477E+20
I-133	1.0450E+05	9.2248E-05	4.1769E+20	9.0578E+20
I-134	1.4793E-03	5.5451E-14	2.4920E+11	2.4870E+20
I-135	1.7865E+04	5.0871E-06	2.2693E+19	6.0298E+20

Xe-133	8.1975E+07	4.3795E-01	1.9830E+24	2.7156E+23
Xe-135	6.2456E+06	2.4457E-03	1.0910E+22	5.2710E+22
Cs-134	1.6989E+04	1.3131E-02	5.9011E+22	9.7954E+19
Cs-136	4.4015E+03	6.0055E-05	2.6593E+20	2.6323E+19
Cs-137	1.3485E+04	1.5504E-01	6.8149E+23	7.7706E+19
Ba-139	6.7402E-02	4.1207E-12	1.7853E+13	1.4385E+19
Ba-140	1.1211E+04	1.5314E-04	6.5872E+20	5.9391E+19
La-140	3.7839E+03	6.8076E-06	2.9283E+19	6.4399E+18
La-141	1.5657E+00	2.7685E-10	1.1824E+15	2.4035E+17
La-142	2.1723E-03	1.5175E-13	6.4356E+11	1.3968E+17
Ce-141	2.6677E+02	9.3624E-06	3.9987E+19	1.3811E+18
Ce-143	1.5323E+02	2.3073E-07	9.7168E+17	1.1068E+18
Ce-144	2.3297E+02	7.3042E-05	3.0547E+20	1.1922E+18
Pr-143	1.0279E+02	1.5265E-06	6.4284E+18	5.0974E+17
Nd-147	4.1052E+01	5.0745E-07	2.0789E+18	2.1875E+17
Np-239	2.3849E+03	1.0280E-05	2.5903E+19	1.4872E+19
Pu-238	8.3758E-01	4.8925E-05	1.2380E+20	4.2790E+15
Pu-239	7.9339E-02	1.2764E-03	3.2163E+21	4.0463E+14
Pu-240	1.4496E-01	6.3614E-04	1.5962E+21	7.4060E+14
Pu-241	3.2006E+01	3.1070E-04	7.7638E+20	1.6354E+17
Am-241	2.1153E-02	6.1632E-06	1.5401E+19	1.0760E+14
Cm-242	5.3245E+00	1.6065E-06	3.9978E+18	2.7280E+16
Cm-244	3.1081E-01	3.8418E-06	9.4820E+18	1.5881E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6451E+25	0.0000E+00	
Elemental I (atoms)	4.6318E+20	5.4908E+22	
Organic I (atoms)	8.0396E+20	0.0000E+00	
Aerosols (kg)	1.7926E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.5203E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.9732E-05
Total I (Ci)			2.4832E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Leakage Transport
Noble gases (atoms)	4.8445E+23
Elemental I (atoms)	1.8717E+19
Organic I (atoms)	2.6157E+19
Aerosols (kg)	9.6854E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1403E+26
Elemental I (atoms)	0.0000E+00	1.9873E+22
Organic I (atoms)	0.0000E+00	2.7754E+22
Aerosols (kg)	0.0000E+00	1.0291E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0258E+26
Elemental I (atoms)	0.0000E+00	1.9451E+22
Organic I (atoms)	0.0000E+00	2.7066E+22
Aerosols (kg)	0.0000E+00	1.0176E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	8.7034E-02	2.7371E-09	2.8419E+16	3.1927E+14
Co-60	1.0515E-01	9.3025E-08	9.3368E+17	3.8389E+14
Kr-85	1.3319E+04	3.3949E-02	2.4052E+23	2.8807E+19
Kr-85m	4.8389E+03	5.8799E-07	4.1658E+18	6.2997E+19

Kr-87	8.2830E-01	2.9242E-11	2.0241E+14	1.0292E+19
Kr-88	1.5784E+03	1.2587E-07	8.6140E+17	8.0129E+19
Rb-86	2.4318E+00	2.9886E-08	2.0928E+17	1.0104E+16
Sr-89	1.1760E+02	4.0479E-06	2.7390E+19	4.3228E+17
Sr-90	1.8752E+01	1.3747E-04	9.1986E+20	6.8449E+16
Sr-91	2.6254E+01	7.2424E-09	4.7928E+16	2.6133E+17
Sr-92	3.4547E-01	2.7485E-11	1.7991E+14	8.4226E+16
Y-90	4.2172E+00	7.7513E-09	5.1866E+16	7.5754E+15
Y-91	1.8304E+00	7.4638E-08	4.9393E+17	6.2538E+15
Y-92	3.3693E+00	3.5016E-10	2.2921E+15	7.5672E+16
Y-93	2.3611E-01	7.0769E-11	4.5826E+14	2.2017E+15
Zr-95	2.1718E+00	1.0110E-07	6.4086E+17	7.9714E+15
Zr-97	7.9763E-01	4.1724E-10	2.5904E+15	4.9861E+15
Nb-95	2.1948E+00	5.6129E-08	3.5581E+17	8.0111E+15
Mo-99	2.2366E+01	4.6634E-08	2.8367E+17	9.3071E+16
Tc-99m	2.2413E+01	4.2625E-09	2.5929E+16	8.6116E+16
Ru-103	2.4342E+01	7.5423E-07	4.4098E+18	8.9655E+16
Ru-105	4.1009E-01	6.1007E-11	3.4990E+14	1.5976E+16
Ru-106	1.0786E+01	3.2239E-06	1.8316E+19	3.9407E+16
Rh-105	1.1671E+01	1.3827E-08	7.9304E+16	5.2555E+16
Sb-127	2.2826E+01	8.5475E-08	4.0531E+17	9.1451E+16
Sb-129	2.1152E+00	3.7615E-10	1.7560E+15	8.8917E+16
Te-127	2.5514E+01	9.6676E-09	4.5842E+16	9.5001E+16
Te-127m	4.6492E+00	4.9289E-07	2.3372E+18	1.6972E+16
Te-129	1.9276E+01	9.2042E-10	4.2968E+15	1.3409E+17
Te-129m	1.8857E+01	6.2595E-07	2.9221E+18	6.9461E+16
Te-131m	3.5684E+01	4.4750E-08	2.0572E+17	1.7486E+17
Te-132	3.5434E+02	1.1671E-06	5.3248E+18	1.4442E+18
I-131	1.9360E+03	1.5616E-05	7.1789E+19	7.2003E+18
I-132	4.2393E+02	4.1069E-08	1.8737E+17	2.9927E+18
I-133	1.9537E+03	1.7246E-06	7.8089E+18	1.0709E+19
I-134	2.7655E-05	1.0367E-15	4.6590E+09	5.0686E+17
I-135	3.3400E+02	9.5106E-08	4.2425E+17	5.3609E+18
Xe-133	1.3639E+06	7.2865E-03	3.2993E+22	3.1010E+21
Xe-135	1.0396E+05	4.0708E-05	1.8159E+20	4.9062E+20
Cs-134	3.3238E+02	2.5689E-04	1.1545E+21	1.3545E+18
Cs-136	8.6113E+01	1.1749E-06	5.2027E+18	3.6087E+17
Cs-137	2.6383E+02	3.0332E-03	1.3333E+22	1.0746E+18
Ba-139	1.2761E-03	7.8016E-14	3.3800E+11	4.4950E+16
Ba-140	2.1226E+02	2.8993E-06	1.2472E+19	7.9667E+17
La-140	7.1735E+01	1.2906E-07	5.5516E+17	1.3112E+17
La-141	2.9643E-02	5.2416E-12	2.2387E+13	1.6533E+15
La-142	4.1128E-05	2.8730E-15	1.2184E+10	4.8115E+14
Ce-141	5.0506E+00	1.7725E-07	7.5706E+17	1.8628E+16
Ce-143	2.9010E+00	4.3684E-09	1.8397E+16	1.3827E+16
Ce-144	4.4107E+00	1.3829E-06	5.7833E+18	1.6120E+16
Pr-143	1.9463E+00	2.8904E-08	1.2172E+17	6.9553E+15
Nd-147	7.7723E-01	9.6075E-09	3.9359E+16	2.9303E+15
Np-239	4.5152E+01	1.9463E-07	4.9041E+17	1.9215E+17
Pu-238	1.5858E-02	9.2629E-07	2.3438E+18	5.7879E+13
Pu-239	1.5021E-03	2.4167E-05	6.0893E+19	5.4754E+12
Pu-240	2.7444E-03	1.2044E-05	3.0221E+19	1.0017E+13
Pu-241	6.0596E-01	5.8824E-06	1.4699E+19	2.2120E+15
Am-241	4.0049E-04	1.1669E-07	2.9158E+17	1.4568E+12
Cm-242	1.0081E-01	3.0416E-08	7.5689E+16	3.6876E+14
Cm-244	5.8846E-03	7.2737E-08	1.7952E+17	2.1480E+13

Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7370E+23	0.0000E+00	
Elemental I (atoms)	8.0436E+18	0.0000E+00	
Organic I (atoms)	1.3390E+19	0.0000E+00	
Aerosols (kg)	3.5005E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.5682E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.9259E-08
Total I (Ci)			4.6476E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.8445E+23
Elemental I (atoms)	1.8717E+19
Organic I (atoms)	2.6157E+19
Aerosols (kg)	9.6854E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2111E+23
Elemental I (atoms)	1.8940E+19	2.1257E+18
Organic I (atoms)	2.4786E+19	2.7550E+18
Aerosols (kg)	1.2274E-02	2.7318E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	3.1411E+23
Elemental I (atoms)	1.2157E+19
Organic I (atoms)	1.6917E+19
Aerosols (kg)	6.3599E-03

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3078E-01	4.2550E-01	1.5027E-01
Accumulated dose (rem)	5.7661E-01	2.3658E+00	6.8333E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8219E-02	3.8955E-02	2.0004E-02
Accumulated dose (rem)	2.0877E-01	3.9070E-01	2.2706E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9867E-04	6.2287E-03	6.8406E-04
Accumulated dose (rem)	6.6190E-03	4.2633E+00	1.9175E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4844E+00	1.4103E-07	1.4643E+18	3.8150E+16
Co-60	5.4694E+00	4.8385E-06	4.8564E+19	4.5997E+16
Kr-85	7.8849E+05	2.0097E+00	1.4239E+25	5.0264E+21
Kr-85m	6.9900E+03	8.4938E-07	6.0177E+18	8.9775E+21
Kr-87	1.0216E-04	3.6066E-15	2.4965E+10	3.5311E+21
Kr-88	2.6711E+02	2.1302E-08	1.4578E+17	1.4567E+22
Rb-86	1.1798E+02	1.4500E-06	1.0153E+19	1.1222E+18
Sr-89	6.0356E+03	2.0775E-04	1.4057E+21	5.1594E+19
Sr-90	9.7565E+02	7.1525E-03	4.7859E+22	8.2022E+18
Sr-91	2.3712E+02	6.5411E-08	4.3288E+17	2.7839E+19
Sr-92	3.8791E-02	3.0862E-12	2.0202E+13	1.5653E+19
Y-90	3.9351E+02	7.2327E-07	4.8396E+18	1.3588E+18
Y-91	9.7249E+01	3.9655E-06	2.6242E+19	7.5592E+17
Y-92	2.0416E+00	2.1217E-10	1.3889E+15	3.4525E+18
Y-93	2.3663E+00	7.0925E-10	4.5927E+15	2.3268E+17
Zr-95	1.1179E+02	5.2035E-06	3.2986E+19	9.5221E+17
Zr-97	1.5509E+01	8.1126E-09	5.0366E+16	5.1713E+17
Nb-95	1.1415E+02	2.9191E-06	1.8504E+19	9.5982E+17
Mo-99	9.0447E+02	1.8858E-06	1.1471E+19	1.0469E+19
Tc-99m	9.2561E+02	1.7603E-07	1.0708E+18	9.7355E+18
Ru-103	1.2444E+03	3.8557E-05	2.2544E+20	1.0689E+19

Ru-105	5.0346E-01	7.4897E-11	4.2956E+14	2.1831E+18
Ru-106	5.6014E+02	1.6743E-04	9.5121E+20	4.7195E+18
Rh-105	3.8122E+02	4.5165E-07	2.5904E+18	5.6222E+18
Sb-127	9.9201E+02	3.7147E-06	1.7614E+19	1.0452E+19
Sb-129	2.3401E+00	4.1614E-10	1.9427E+15	1.2327E+19
Te-127	1.1776E+03	4.4622E-07	2.1159E+18	1.1026E+19
Te-127m	2.4162E+02	2.5615E-05	1.2146E+20	2.0333E+18
Te-129	8.3450E+02	3.9847E-08	1.8602E+17	1.7015E+19
Te-129m	9.6125E+02	3.1908E-05	1.4896E+20	8.2722E+18
Te-131m	1.0664E+03	1.3373E-06	6.1478E+18	1.8704E+19
Te-132	1.4904E+04	4.9092E-05	2.2397E+20	1.6384E+20
I-131	9.3681E+04	7.5564E-04	3.4737E+21	8.5867E+20
I-132	1.7789E+04	1.7234E-06	7.8626E+18	4.9016E+20
I-133	4.6265E+04	4.0841E-05	1.8493E+20	1.1342E+21
I-135	1.4207E+03	4.0454E-07	1.8046E+18	6.2374E+20
Xe-133	7.0766E+07	3.7806E-01	1.7118E+24	5.1519E+23
Xe-135	9.9017E+05	3.8774E-04	1.7296E+21	6.1830E+22
Cs-134	1.6721E+04	1.2923E-02	5.8079E+22	1.5182E+20
Cs-136	4.1125E+03	5.6112E-05	2.4847E+20	3.9922E+19
Cs-137	1.3284E+04	1.5272E-01	6.7131E+23	1.2048E+20
Ba-139	3.8065E-07	2.3271E-17	1.0082E+08	1.4385E+19
Ba-140	1.0459E+04	1.4287E-04	6.1455E+20	9.4004E+19
La-140	6.1281E+03	1.1025E-05	4.7425E+19	2.2329E+19
La-141	2.2379E-02	3.9572E-12	1.6901E+13	2.4152E+17
La-142	4.4066E-08	3.0783E-18	1.3055E+07	1.3968E+17
Ce-141	2.5726E+02	9.0287E-06	3.8562E+19	2.2184E+18
Ce-143	9.1177E+01	1.3730E-07	5.7820E+17	1.4888E+18
Ce-144	2.2894E+02	7.1780E-05	3.0019E+20	1.9303E+18
Pr-143	1.0212E+02	1.5165E-06	6.3863E+18	8.3758E+17
Nd-147	3.7967E+01	4.6931E-07	1.9226E+18	3.4495E+17
Np-239	1.7503E+03	7.5448E-06	1.9011E+19	2.1428E+19
Pu-238	8.2521E-01	4.8202E-05	1.2197E+20	6.9359E+15
Pu-239	7.8319E-02	1.2600E-03	3.1749E+21	6.5655E+14
Pu-240	1.4280E-01	6.2667E-04	1.5725E+21	1.2004E+15
Pu-241	3.1525E+01	3.0603E-04	7.6472E+20	2.6505E+17
Am-241	2.0976E-02	6.1117E-06	1.5272E+19	1.7490E+14
Cm-242	5.2229E+00	1.5759E-06	3.9215E+18	4.4133E+16
Cm-244	3.0616E-01	3.7842E-06	9.3399E+18	2.5739E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5952E+25	0.0000E+00	
Elemental I (atoms)	3.9604E+20	5.4908E+22	
Organic I (atoms)	6.8742E+20	0.0000E+00	
Aerosols (kg)	1.7646E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.7741E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.9704E-05
Total I (Ci)			1.5916E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.2747E+23
Elemental I (atoms)	2.5143E+19
Organic I (atoms)	3.7312E+19
Aerosols (kg)	1.2353E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0298E+27
Elemental I (atoms)	0.0000E+00	3.3511E+22
Organic I (atoms)	0.0000E+00	5.1426E+22
Aerosols (kg)	0.0000E+00	1.5953E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0183E+27
Elemental I (atoms)	0.0000E+00	3.3089E+22
Organic I (atoms)	0.0000E+00	5.0738E+22
Aerosols (kg)	0.0000E+00	1.5838E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.2672E-02	1.3420E-09	1.3934E+16	4.9474E+14
Co-60	5.2045E-02	4.6042E-08	4.6212E+17	5.9678E+14
Kr-85	7.3931E+03	1.8844E-02	1.3351E+23	5.7647E+19
Kr-85m	6.5540E+01	7.9640E-09	5.6424E+16	6.6198E+19
Kr-87	9.5788E-07	3.3817E-17	2.3408E+08	1.0292E+19
Kr-88	2.5045E+00	1.9973E-10	1.3668E+15	8.0841E+19
Rb-86	1.1272E+00	1.3853E-08	9.7006E+16	1.4870E+16
Sr-89	5.7433E+01	1.9769E-06	1.3376E+19	6.6896E+17
Sr-90	9.2839E+00	6.8061E-05	4.5541E+20	1.0642E+17
Sr-91	2.2563E+00	6.2243E-10	4.1191E+15	2.8893E+17
Sr-92	3.6913E-04	2.9367E-14	1.9223E+11	8.4372E+16
Y-90	3.7447E+00	6.8829E-09	4.6055E+16	1.9061E+16
Y-91	9.2545E-01	3.7737E-08	2.4973E+17	1.0009E+16
Y-92	1.9433E-02	2.0195E-12	1.3219E+13	7.7567E+16
Y-93	2.2517E-02	6.7490E-12	4.3702E+13	2.4581E+15
Zr-95	1.0637E+00	4.9515E-08	3.1388E+17	1.2348E+16
Zr-97	1.4757E-01	7.7197E-11	4.7927E+14	6.0716E+15
Nb-95	1.0862E+00	2.7777E-08	1.7608E+17	1.2453E+16
Mo-99	8.6067E+00	1.7945E-08	1.0916E+17	1.3367E+17
Tc-99m	8.8078E+00	1.6750E-09	1.0189E+16	1.2523E+17
Ru-103	1.1841E+01	3.6690E-07	2.1452E+18	1.3856E+17
Ru-105	4.7907E-03	7.1269E-13	4.0875E+12	1.6235E+16
Ru-106	5.3302E+00	1.5932E-06	9.0514E+18	6.1228E+16
Rh-105	3.6276E+00	4.2978E-09	2.4649E+16	7.1966E+16
Sb-127	9.4397E+00	3.5348E-08	1.6761E+17	1.3418E+17
Sb-129	2.2268E-02	3.9599E-12	1.8486E+13	9.0228E+16
Te-127	1.1206E+01	4.2461E-09	2.0134E+16	1.4250E+17
Te-127m	2.2991E+00	2.4374E-07	1.1558E+18	2.6381E+16
Te-129	7.9408E+00	3.7918E-10	1.7701E+15	1.6024E+17
Te-129m	9.1469E+00	3.0363E-07	1.4174E+18	1.0730E+17
Te-131m	1.0148E+01	1.2726E-08	5.8501E+16	2.3207E+17
Te-132	1.4182E+02	4.6714E-07	2.1312E+18	2.0982E+18
I-131	8.9008E+02	7.1796E-06	3.3005E+19	1.1000E+19
I-132	1.6928E+02	1.6400E-08	7.4818E+16	3.6700E+18
I-133	4.3958E+02	3.8804E-07	1.7570E+18	1.3573E+19
I-135	1.3498E+01	3.8436E-09	1.7146E+16	5.6440E+18
Xe-133	6.6353E+05	3.5448E-03	1.6051E+22	5.8846E+21
Xe-135	9.2850E+03	3.6358E-06	1.6219E+19	6.0290E+20
Cs-134	1.5975E+02	1.2347E-04	5.5489E+20	2.0163E+18
Cs-136	3.9291E+01	5.3610E-07	2.3739E+18	5.2846E+17
Cs-137	1.2691E+02	1.4591E-03	6.4137E+21	1.6002E+18
Ba-139	3.6221E-09	2.2144E-19	9.5939E+05	4.4950E+16
Ba-140	9.9527E+01	1.3595E-06	5.8479E+18	1.2162E+18
La-140	5.8317E+01	1.0492E-07	4.5131E+17	3.1805E+17
La-141	2.1295E-04	3.7655E-14	1.6083E+11	1.6703E+15
La-142	4.1932E-10	2.9292E-20	1.2423E+05	4.8116E+14
Ce-141	2.4480E+00	8.5914E-08	3.6694E+17	2.8759E+16
Ce-143	8.6761E-01	1.3065E-09	5.5020E+15	1.8572E+16
Ce-144	2.1785E+00	6.8303E-07	2.8565E+18	2.5041E+16
Pr-143	9.7172E-01	1.4430E-08	6.0770E+16	1.0916E+16
Nd-147	3.6128E-01	4.4658E-09	1.8295E+16	4.4609E+15
Np-239	1.6656E+01	7.1794E-08	1.8090E+17	2.7267E+17
Pu-238	7.8524E-03	4.5868E-07	1.1606E+18	8.9991E+13
Pu-239	7.4525E-04	1.1990E-05	3.0211E+19	8.5198E+12
Pu-240	1.3588E-03	5.9632E-06	1.4963E+19	1.5574E+13
Pu-241	2.9998E-01	2.9121E-06	7.2768E+18	3.4389E+15

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Am-241                 1.9961E-04  5.8157E-08  1.4532E+17  2.2700E+12
Cm-242                 4.9699E-02  1.4995E-08  3.7316E+16  5.7249E+14
Cm-244                 2.9133E-03  3.6010E-08  8.8875E+16  3.3396E+13

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.4957E+23  0.0000E+00
Elemental I (atoms)    3.7309E+18  0.0000E+00
Organic I (atoms)      6.4462E+18  0.0000E+00
Aerosols (kg)          1.6855E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5141E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.5928E-08
Total I (Ci)                                   1.5124E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      7.2747E+23
Elemental I (atoms)      2.5143E+19
Organic I (atoms)        3.7312E+19
Aerosols (kg)            1.2353E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0465E+24
Elemental I (atoms)    3.1793E+19  3.5539E+18
Organic I (atoms)      4.6632E+19  5.1823E+18
Aerosols (kg)          1.8399E-02  3.9818E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      4.7528E+23
Elemental I (atoms)      1.6419E+19
Organic I (atoms)        2.4314E+19
Aerosols (kg)            8.1291E-03

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2576E-01  5.1156E-01  1.5053E-01
Accumulated dose (rem)  7.0238E-01  2.8774E+00  8.3385E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7521E-02  4.6834E-02  1.9788E-02
Accumulated dose (rem)  2.2629E-01  4.3754E-01  2.4685E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4930E-04  6.8887E-03  6.8276E-04
Accumulated dose (rem)  6.9683E-03  4.2702E+00  1.9243E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.2675E+00  1.3421E-07  1.3935E+18  6.6114E+16
Co-60                  5.3039E+00  4.6921E-06  4.7095E+19  8.0424E+16
Kr-85                  7.6492E+05  1.9497E+00  1.3813E+25  9.9904E+21
Kr-85m                 4.0376E+00  4.9063E-10  3.4760E+15  8.9835E+21
Kr-88                  2.1175E-03  1.6887E-13  1.1556E+12  1.4567E+22
Rb-86                  1.0630E+02  1.3064E-06  9.1479E+18  1.8383E+18
Sr-89                  5.6986E+03  1.9615E-04  1.3272E+21  8.9084E+19
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Sr-90	9.4669E+02	6.9402E-03	4.6438E+22	1.4345E+19
Sr-91	6.9333E+00	1.9126E-09	1.2657E+16	2.8256E+19
Sr-92	1.7531E-07	1.3947E-17	9.1297E+07	1.5653E+19
Y-90	6.1295E+02	1.1266E-06	7.5385E+18	4.6139E+18
Y-91	9.2788E+01	3.7836E-06	2.5039E+19	1.3641E+18
Y-92	1.7475E-04	1.8161E-14	1.1888E+11	3.4539E+18
Y-93	8.5192E-02	2.5535E-11	1.6535E+14	2.3707E+17
Zr-95	1.0616E+02	4.9415E-06	3.1325E+19	1.6486E+18
Zr-97	2.1016E+00	1.0993E-09	6.8251E+15	5.6000E+17
Nb-95	1.1060E+02	2.8284E-06	1.7929E+19	1.6778E+18
Mo-99	5.3020E+02	1.1055E-06	6.7245E+18	1.4948E+19
Tc-99m	5.4357E+02	1.0338E-07	6.2883E+17	1.4094E+19
Ru-103	1.1657E+03	3.6120E-05	2.1119E+20	1.8388E+19
Ru-105	2.7199E-04	4.0463E-14	2.3207E+11	2.1835E+18
Ru-106	5.4155E+02	1.6187E-04	9.1962E+20	8.2400E+18
Rh-105	1.4441E+02	1.7109E-07	9.8126E+17	7.1815E+18
Sb-127	6.7160E+02	2.5149E-06	1.1925E+19	1.5703E+19
Sb-129	1.0267E-03	1.8257E-13	8.5231E+11	1.2329E+19
Te-127	8.7314E+02	3.3085E-07	1.5688E+18	1.7311E+19
Te-127m	2.3335E+02	2.4739E-05	1.1731E+20	3.5512E+18
Te-129	7.7403E+02	3.6960E-08	1.7254E+17	2.0879E+19
Te-129m	8.9514E+02	2.9714E-05	1.3871E+20	1.4202E+19
Te-131m	3.4139E+02	4.2812E-07	1.9681E+18	2.2772E+19
Te-132	9.4514E+03	3.1132E-05	1.4203E+20	2.4035E+20
I-131	7.6590E+04	6.1779E-04	2.8400E+21	1.4010E+21
I-132	1.1281E+04	1.0929E-06	4.9861E+18	5.6936E+20
I-133	9.0687E+03	8.0055E-06	3.6248E+19	1.2801E+21
I-135	8.9840E+00	2.5582E-09	1.1412E+16	6.2552E+20
Xe-133	5.2729E+07	2.8170E-01	1.2755E+24	9.0704E+23
Xe-135	2.4784E+04	9.7052E-06	4.3293E+19	6.3504E+22
Cs-134	1.6197E+04	1.2518E-02	5.6259E+22	2.5701E+20
Cs-136	3.5902E+03	4.8986E-05	2.1691E+20	6.4501E+19
Cs-137	1.2889E+04	1.4819E-01	6.5138E+23	2.0412E+20
Ba-140	9.1036E+03	1.2435E-04	5.3490E+20	1.5642E+20
La-140	8.0171E+03	1.4424E-05	6.2044E+19	6.8439E+19
La-141	4.5721E-06	8.0845E-16	3.4529E+09	2.4153E+17
Ce-141	2.3923E+02	8.3960E-06	3.5859E+19	3.8044E+18
Ce-143	3.2285E+01	4.8615E-08	2.0473E+17	1.8513E+18
Ce-144	2.2109E+02	6.9319E-05	2.8990E+20	3.3683E+18
Pr-143	9.4845E+01	1.4085E-06	5.9315E+18	1.4693E+18
Nd-147	3.2474E+01	4.0142E-07	1.6445E+18	5.6961E+17
Np-239	9.4285E+02	4.0641E-06	1.0241E+19	2.9770E+19
Pu-238	8.0100E-01	4.6789E-05	1.1839E+20	1.2133E+16
Pu-239	7.6206E-02	1.2260E-03	3.0893E+21	1.1504E+15
Pu-240	1.3858E-01	6.0815E-04	1.5260E+21	2.0995E+15
Pu-241	3.0585E+01	2.9691E-04	7.4192E+20	4.6353E+17
Am-241	2.0625E-02	6.0093E-06	1.5016E+19	3.0784E+14
Cm-242	5.0256E+00	1.5163E-06	3.7734E+18	7.6881E+16
Cm-244	2.9704E-01	3.6716E-06	9.0619E+18	4.5015E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5089E+25	0.0000E+00	
Elemental I (atoms)	3.1106E+20	5.4908E+22	
Organic I (atoms)	5.3992E+20	0.0000E+00	
Aerosols (kg)	1.7105E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9057E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9524E-05
Total I (Ci)			9.6949E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport	
Noble gases (atoms)	1.1928E+24
Elemental I (atoms)	3.5675E+19
Organic I (atoms)	5.5592E+19
Aerosols (kg)	1.7565E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0173E+27
Elemental I (atoms)	0.0000E+00	5.5860E+22
Organic I (atoms)	0.0000E+00	9.0218E+22
Aerosols (kg)	0.0000E+00	2.7013E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0059E+27
Elemental I (atoms)	0.0000E+00	5.5438E+22
Organic I (atoms)	0.0000E+00	8.9530E+22
Aerosols (kg)	0.0000E+00	2.6898E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	3.8018E-02	1.1956E-09	1.2414E+16	7.4670E+14
Co-60	4.7252E-02	4.1802E-08	4.1956E+17	9.0696E+14
Kr-85	6.8141E+03	1.7368E-02	1.2305E+23	1.0225E+20
Kr-85m	3.5969E-02	4.3707E-12	3.0966E+13	6.6253E+19
Kr-88	1.8864E-05	1.5044E-15	1.0295E+10	8.0843E+19
Rb-86	9.4699E-01	1.1638E-08	8.1498E+16	2.1328E+16
Sr-89	5.0768E+01	1.7475E-06	1.1824E+19	1.0068E+18
Sr-90	8.4339E+00	6.1829E-05	4.1371E+20	1.6176E+17
Sr-91	6.1767E-02	1.7039E-11	1.1276E+14	2.9273E+17
Sr-92	1.5618E-09	1.2426E-19	8.1335E+05	8.4372E+16
Y-90	5.4607E+00	1.0037E-08	6.7159E+16	4.8337E+16
Y-91	8.2663E-01	3.3707E-08	2.2307E+17	1.5489E+16
Y-92	1.5569E-06	1.6180E-16	1.0591E+09	7.7580E+16
Y-93	7.5896E-04	2.2748E-13	1.4731E+12	2.4981E+15
Zr-95	9.4574E-01	4.4023E-08	2.7907E+17	1.8622E+16
Zr-97	1.8723E-02	9.7939E-12	6.0804E+13	6.4609E+15
Nb-95	9.8530E-01	2.5197E-08	1.5973E+17	1.8921E+16
Mo-99	4.7234E+00	9.8484E-09	5.9907E+16	1.7410E+17
Tc-99m	4.8426E+00	9.2095E-10	5.6021E+15	1.6457E+17
Ru-103	1.0385E+01	3.2179E-07	1.8814E+18	2.0794E+17
Ru-105	2.4231E-06	3.6048E-16	2.0675E+09	1.6239E+16
Ru-106	4.8246E+00	1.4421E-06	8.1928E+18	9.2947E+16
Rh-105	1.2865E+00	1.5242E-09	8.7419E+15	8.6067E+16
Sb-127	5.9832E+00	2.2404E-08	1.0624E+17	1.8154E+17
Sb-129	9.1465E-06	1.6265E-15	7.5931E+09	9.0245E+16
Te-127	7.7787E+00	2.9475E-09	1.3976E+16	1.9918E+17
Te-127m	2.0789E+00	2.2039E-07	1.0451E+18	4.0058E+16
Te-129	6.8958E+00	3.2927E-10	1.5372E+15	1.9506E+17
Te-129m	7.9746E+00	2.6472E-07	1.2358E+18	1.6074E+17
Te-131m	3.0414E+00	3.8141E-09	1.7533E+16	2.6888E+17
Te-132	8.4201E+01	2.7735E-07	1.2653E+18	2.7887E+18
I-131	6.8232E+02	5.5037E-06	2.5301E+19	1.5888E+19
I-132	1.0050E+02	9.7366E-09	4.4420E+16	4.3848E+18
I-133	8.0791E+01	7.1319E-08	3.2293E+17	1.4895E+19
I-135	8.0037E-02	2.2790E-11	1.0166E+14	5.6603E+18
Xe-133	4.6973E+05	2.5095E-03	1.1363E+22	9.4085E+21
Xe-135	2.2079E+02	8.6457E-08	3.8567E+17	6.1811E+20
Cs-134	1.4429E+02	1.1153E-04	5.0121E+20	2.9647E+18
Cs-136	3.1985E+01	4.3641E-07	1.9325E+18	7.5015E+17
Cs-137	1.1483E+02	1.3202E-03	5.8032E+21	2.3543E+18
Ba-140	8.1103E+01	1.1078E-06	4.7654E+18	1.7789E+18
La-140	7.1423E+01	1.2850E-07	5.5274E+17	7.3301E+17
La-141	4.0732E-08	7.2024E-18	3.0761E+07	1.6705E+15
Ce-141	2.1313E+00	7.4798E-08	3.1947E+17	4.3051E+16
Ce-143	2.8762E-01	4.3311E-10	1.8239E+15	2.1852E+16

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Ce-144                 1.9697E+00  6.1756E-07  2.5826E+18  3.7998E+16
Pr-143                 8.4496E-01  1.2548E-08  5.2843E+16  1.6608E+16
Nd-147                 2.8931E-01  3.5762E-09  1.4651E+16  6.4859E+15
Np-239                 8.3997E+00  3.6207E-08  9.1231E+16  3.4800E+17
Pu-238                 7.1360E-03  4.1683E-07  1.0547E+18  1.3681E+14
Pu-239                 6.7891E-04  1.0923E-05  2.7522E+19  1.2969E+13
Pu-240                 1.2346E-03  5.4179E-06  1.3595E+19  2.3676E+13
Pu-241                 2.7248E-01  2.6451E-06  6.6097E+18  5.2271E+15
Am-241                 1.8374E-04  5.3536E-08  1.3378E+17  3.4676E+12
Cm-242                 4.4772E-02  1.3509E-08  3.3616E+16  8.6755E+14
Cm-244                 2.6463E-03  3.2710E-08  8.0731E+16  5.0762E+13

Reactor Building Transport Group Inventory:
Time (h) =  96.0000    Atmosphere     Sump
Noble gases (atoms)    1.3441E+23  0.0000E+00
Elemental I (atoms)    2.7711E+18  0.0000E+00
Organic I (atoms)      4.8098E+18  0.0000E+00
Aerosols (kg)          1.5239E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0930E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1105E-08
Total I (Ci)                                   8.6370E+02

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      1.1928E+24
Elemental I (atoms)      3.5675E+19
Organic I (atoms)        5.5592E+19
Aerosols (kg)            1.7565E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8321E+24
Elemental I (atoms)    4.7817E+19  5.3344E+18
Organic I (atoms)      7.4420E+19  8.2699E+18
Aerosols (kg)          2.7051E-02  5.7475E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      7.8389E+23
Elemental I (atoms)      2.3402E+19
Organic I (atoms)        3.6436E+19
Aerosols (kg)            1.1586E-02

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4549E-01  2.0077E+00  4.9870E-01
Accumulated dose (rem)  1.0479E+00  4.8851E+00  1.3326E+00

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2969E-02  4.9525E-02  1.6748E-02
Accumulated dose (rem)  2.3926E-01  4.8706E-01  2.6360E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8425E-04  5.1799E-03  5.7838E-04
Accumulated dose (rem)  7.1525E-03  4.2754E+00  1.9301E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.2400E+00	7.0445E-08	7.3143E+17	3.2748E+17
Co-60	3.5576E+00	3.1472E-06	3.1589E+19	4.4376E+17
Kr-85	5.1552E+05	1.3140E+00	9.3093E+24	6.2507E+22
Rb-86	2.7397E+01	3.3671E-07	2.3578E+18	6.6736E+18
Sr-89	2.7003E+03	9.2946E-05	6.2891E+20	4.2266E+20
Sr-90	6.3988E+02	4.6909E-03	3.1388E+22	7.9430E+19
Y-90	6.4324E+02	1.1823E-06	7.9110E+18	6.5776E+19
Y-91	4.6179E+01	1.8830E-06	1.2461E+19	6.9147E+18
Zr-95	5.4231E+01	2.5244E-06	1.6002E+19	8.0723E+18
Zr-97	1.0920E-11	5.7122E-21	3.5464E+04	5.6672E+17
Nb-95	6.9432E+01	1.7756E-06	1.1256E+19	9.0777E+18
Mo-99	5.1163E-01	1.0668E-09	6.4891E+15	2.1286E+19
Tc-99m	5.2455E-01	9.9757E-11	6.0682E+14	2.0265E+19
Ru-103	4.9885E+02	1.5457E-05	9.0372E+19	8.3672E+19
Ru-106	3.4914E+02	1.0436E-04	5.9290E+20	4.4661E+19
Rh-105	4.7635E-04	5.6436E-13	3.2368E+12	8.1322E+18
Sb-127	4.2151E+00	1.5784E-08	7.4844E+16	2.6638E+19
Te-127	1.4320E+02	5.4261E-08	2.5730E+17	4.2158E+19
Te-127m	1.3643E+02	1.4463E-05	6.8583E+19	1.8639E+19
Te-129	3.0651E+02	1.4636E-08	6.8325E+16	5.2461E+19
Te-129m	3.5447E+02	1.1766E-05	5.4929E+19	6.2698E+19
Te-131m	1.2660E-04	1.5877E-13	7.2987E+11	2.4688E+19
Te-132	2.5354E+01	8.3512E-08	3.8100E+17	3.7263E+20
I-131	5.5156E+03	4.4490E-05	2.0452E+20	3.6465E+21
I-132	3.0262E+01	2.9318E-09	1.3375E+16	7.0628E+20
I-133	5.7183E-06	5.0479E-15	2.2857E+10	1.3157E+21
Xe-133	1.1494E+06	6.1403E-03	2.7803E+22	2.0273E+24
Cs-134	1.0707E+04	8.2752E-03	3.7190E+22	1.3590E+21
Cs-136	6.1416E+02	8.3797E-06	3.7106E+19	2.0455E+20
Cs-137	8.7126E+03	1.0017E-01	4.4030E+23	1.0903E+21
Ba-140	1.4979E+03	2.0461E-05	8.8014E+19	5.0662E+20
La-140	1.7400E+03	3.1305E-06	1.3466E+19	4.5312E+20
Ce-141	9.3030E+01	3.2650E-06	1.3945E+19	1.6666E+19
Ce-143	4.4403E-05	6.6864E-14	2.8158E+11	2.0501E+18
Ce-144	1.4050E+02	4.4050E-05	1.8422E+20	1.8139E+19
Pr-143	1.7653E+01	2.6216E-07	1.1040E+18	5.3540E+18
Nd-147	4.2594E+00	5.2651E-08	2.1569E+17	1.7237E+18
Np-239	3.0310E-01	1.3065E-09	3.2921E+15	3.9508E+19
Pu-238	5.4383E-01	3.1766E-05	8.0379E+19	6.7318E+16
Pu-239	5.1767E-02	8.3285E-04	2.0985E+21	6.4085E+15
Pu-240	9.3825E-02	4.1176E-04	1.0332E+21	1.1634E+16
Pu-241	2.0637E+01	2.0034E-04	5.0061E+20	2.5646E+18
Am-241	1.6323E-02	4.7558E-06	1.1884E+19	1.8389E+15
Cm-242	3.0460E+00	9.1906E-07	2.2871E+18	4.0538E+17
Cm-244	2.0057E-01	2.4791E-06	6.1187E+18	2.4913E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	9.3371E+24	0.0000E+00
Elemental I (atoms)	2.2082E+19	5.4908E+22
Organic I (atoms)	3.8329E+19	0.0000E+00
Aerosols (kg)	1.1498E-01	5.2615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		2.0504E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		2.0507E-06
Total I (Ci)		5.5459E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Leakage Transport
Noble gases (atoms)	5.7717E+24
Elemental I (atoms)	7.8051E+19
Organic I (atoms)	1.2915E+20
Aerosols (kg)	7.2587E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1734E+28
Elemental I (atoms)	0.0000E+00	1.4579E+23
Organic I (atoms)	0.0000E+00	2.4631E+23
Aerosols (kg)	0.0000E+00	1.4377E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1723E+28
Elemental I (atoms)	0.0000E+00	1.4537E+23
Organic I (atoms)	0.0000E+00	2.4562E+23
Aerosols (kg)	0.0000E+00	1.4366E+02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	1.9951E-02	6.2742E-10	6.5145E+15	3.0746E+15
Co-60	3.1686E-02	2.8031E-08	2.8135E+17	4.1431E+15
Kr-85	4.5915E+03	1.1703E-02	8.2914E+22	5.7000E+20
Rb-86	2.4401E-01	2.9989E-09	2.1000E+16	6.4395E+16
Sr-89	2.4050E+01	8.2783E-07	5.6015E+18	3.9778E+18
Sr-90	5.6991E+00	4.1780E-05	2.7956E+20	7.4145E+17
Y-90	5.7291E+00	1.0530E-08	7.0460E+16	5.9308E+17
Y-91	4.1129E-01	1.6771E-08	1.1099E+17	6.4927E+16
Zr-95	4.8301E-01	2.2483E-08	1.4252E+17	7.5836E+16
Nb-95	6.1841E-01	1.5815E-08	1.0025E+17	8.4830E+16
Mo-99	4.5569E-03	9.5012E-12	5.7795E+13	2.3056E+17
Tc-99m	4.6719E-03	8.8850E-13	5.4047E+12	2.1954E+17
Ru-103	4.4431E+00	1.3767E-07	8.0491E+17	7.8940E+17
Ru-106	3.1097E+00	9.2949E-07	5.2807E+18	4.1734E+17
Rh-105	4.2426E-06	5.0265E-15	2.8829E+10	9.4534E+16
Sb-127	3.7542E-02	1.4058E-10	6.6660E+14	2.7894E+17
Te-127	1.2754E+00	4.8328E-10	2.2916E+15	4.2048E+17
Te-127m	1.2151E+00	1.2882E-07	6.1084E+17	1.7444E+17
Te-129	2.7300E+00	1.3036E-10	6.0855E+14	4.7635E+17
Te-129m	3.1571E+00	1.0480E-07	4.8923E+17	5.9267E+17
Te-131m	1.1276E-06	1.4141E-15	6.5007E+09	2.8594E+17
Te-132	2.2581E-01	7.4381E-10	3.3934E+15	3.9669E+18
I-131	4.9125E+01	3.9625E-07	1.8216E+18	3.5888E+19
I-132	2.6953E-01	2.6112E-11	1.1913E+14	5.6043E+18
I-133	5.0931E-08	4.4960E-17	2.0357E+08	1.5212E+19
Xe-133	1.0237E+04	5.4689E-05	2.4763E+20	1.9386E+22
Cs-134	9.5360E+01	7.3704E-05	3.3124E+20	1.2780E+19
Cs-136	5.4701E+00	7.4635E-08	3.3049E+17	1.9975E+18
Cs-137	7.7599E+01	8.9213E-04	3.9216E+21	1.0247E+19
Ba-140	1.3341E+01	1.8224E-07	7.8391E+17	4.8979E+18
La-140	1.5498E+01	2.7882E-08	1.1994E+17	4.1592E+18
Ce-141	8.2858E-01	2.9080E-08	1.2420E+17	1.5760E+17
Ce-143	3.9548E-07	5.9553E-16	2.5080E+09	2.3622E+16
Ce-144	1.2514E+00	3.9234E-07	1.6408E+18	1.6955E+17
Pr-143	1.5723E-01	2.3349E-09	9.8331E+15	5.1208E+16
Nd-147	3.7936E-02	4.6894E-10	1.9211E+15	1.6765E+16
Np-239	2.6996E-03	1.1637E-11	2.9321E+13	4.3473E+17
Pu-238	4.8437E-03	2.8293E-07	7.1590E+17	6.2833E+14
Pu-239	4.6107E-04	7.4178E-06	1.8691E+19	5.9801E+13
Pu-240	8.3566E-04	3.6673E-06	9.2022E+18	1.0860E+14
Pu-241	1.8381E-01	1.7843E-06	4.4587E+18	2.3940E+16
Am-241	1.4538E-04	4.2358E-08	1.0584E+17	1.7104E+13
Cm-242	2.7130E-02	8.1857E-09	2.0370E+16	3.7934E+15
Cm-244	1.7864E-03	2.2081E-08	5.4497E+16	2.3256E+14

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	8.3162E+22	0.0000E+00

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Elemental I (atoms)    1.9668E+17  0.0000E+00
Organic I (atoms)      3.4138E+17  0.0000E+00
Aerosols (kg)          1.0241E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.7107E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.7120E-10
Total I (Ci)                                   4.9395E+01

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      5.7717E+24
Elemental I (atoms)      7.8051E+19
Organic I (atoms)        1.2915E+20
Aerosols (kg)            7.2587E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.4882E+24
Elemental I (atoms)    1.1159E+20  1.2420E+19
Organic I (atoms)      1.8511E+20  2.0569E+19
Aerosols (kg)          1.1721E-01  2.4147E-03

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      3.8204E+24
Elemental I (atoms)      5.1505E+19
Organic I (atoms)        8.5215E+19
Aerosols (kg)            4.8073E-02

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#####################################################################
                              I-131 Summary
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              Sprayed Drywell      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.4650E+03             0.0000E+00           0.0000E+00
   0.033       2.6200E+05             0.0000E+00           0.0000E+00
   0.167       1.2153E+06             1.3317E+02           8.1191E-01
   0.417       5.3523E+05             4.0381E+02           9.0442E+00
   0.500       5.2943E+05             4.8115E+02           9.1483E+00
   0.667       8.4094E+05             6.8635E+02           9.4221E+00
   0.920       8.7697E+05             1.0547E+03           1.0050E+01
   1.170       8.8811E+05             1.4370E+03           1.0943E+01
   1.420       8.9580E+05             1.8261E+03           1.2120E+01
   1.670       9.0149E+05             2.2156E+03           1.3585E+01
   1.920       9.0593E+05             2.6015E+03           1.5341E+01
   2.000       9.0716E+05             2.7238E+03           1.5964E+01
   2.200       1.1299E+05             2.8693E+03           1.7617E+01
   2.300       7.8833E+04             2.8981E+03           1.8468E+01
   2.600       1.6278E+05             2.9567E+03           2.1080E+01
   2.900       1.6460E+05             2.9921E+03           2.3765E+01
   3.200       1.4673E+05             3.0044E+03           2.6503E+01
   3.500       1.2668E+05             2.9973E+03           2.9279E+01
   3.800       1.0890E+05             2.9750E+03           3.2079E+01
   4.000       9.8733E+04             2.9533E+03           3.3954E+01
   4.300       1.0818E+05             2.9179E+03           3.6772E+01
   4.600       1.1156E+05             2.8836E+03           3.9597E+01
   4.900       1.1270E+05             2.8505E+03           4.2428E+01
   5.200       1.1302E+05             2.8185E+03           4.5266E+01
   5.500       1.1303E+05             2.7874E+03           4.8108E+01
   5.800       1.1293E+05             2.7574E+03           5.0956E+01
   6.100       1.1280E+05             2.7284E+03           5.3809E+01
```

6.400	1.1264E+05	2.7003E+03	5.6667E+01
6.700	1.1249E+05	2.6731E+03	5.9528E+01
7.000	1.1233E+05	2.6468E+03	6.2394E+01
7.300	1.1217E+05	2.6213E+03	6.5263E+01
7.600	1.1201E+05	2.5966E+03	6.8135E+01
7.900	1.1185E+05	2.5727E+03	7.1011E+01
8.000	1.1179E+05	2.5649E+03	7.1970E+01
8.300	1.1163E+05	2.5420E+03	7.4849E+01
8.600	1.1147E+05	2.5198E+03	7.7731E+01
8.900	1.1131E+05	2.4984E+03	8.0615E+01
9.200	1.1115E+05	2.4775E+03	8.3501E+01
9.500	1.1099E+05	2.4573E+03	8.6388E+01
9.800	1.1084E+05	2.4378E+03	8.9278E+01
10.100	1.1068E+05	2.4188E+03	9.2168E+01
10.400	1.1052E+05	2.4004E+03	9.5060E+01
16.000	1.0760E+05	2.1411E+03	1.4900E+02
24.000	1.0356E+05	1.9360E+03	2.2501E+02
48.000	9.3681E+04	8.9008E+02	3.6915E+02
96.000	7.6590E+04	6.8232E+02	5.5664E+02
720.000	5.5156E+03	4.9125E+01	1.3241E+03

Time (hr)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	1.6446E+00
0.033	0.0000E+00	5.6993E+03
0.167	1.2949E-03	1.2410E+05
0.417	1.0425E-02	2.4857E+05
0.500	7.1202E-03	2.6436E+05
0.667	3.3130E-03	3.3096E+05
0.920	2.1933E-03	4.2739E+05
1.170	1.4603E-03	4.8930E+05
1.420	9.7291E-04	5.2917E+05
1.670	6.4888E-04	5.5503E+05
1.920	4.3358E-04	5.7199E+05
2.000	3.8132E-04	5.7611E+05
2.200	2.7605E-04	4.5280E+05
2.300	2.3498E-04	3.8161E+05
2.600	1.4528E-04	2.5003E+05
2.900	9.0293E-05	1.8691E+05
3.200	5.6592E-05	1.4888E+05
3.500	3.5939E-05	1.2214E+05
3.800	2.3282E-05	1.0182E+05
4.000	1.7702E-05	9.0777E+04
4.300	1.2104E-05	8.1056E+04
4.600	8.6743E-06	7.7410E+04
4.900	6.5734E-06	7.5999E+04
5.200	5.2874E-06	7.5412E+04
5.500	4.5011E-06	7.5128E+04
5.800	4.0212E-06	7.4956E+04
6.100	3.7290E-06	7.4825E+04
6.400	3.5517E-06	7.4709E+04
6.700	3.4449E-06	7.4599E+04
7.000	3.3811E-06	7.4491E+04
7.300	3.3436E-06	7.4384E+04
7.600	3.3220E-06	7.4278E+04
7.900	3.3101E-06	7.4171E+04
8.000	3.3076E-06	7.4136E+04
8.300	2.8811E-06	7.4030E+04
8.600	2.6203E-06	7.3924E+04
8.900	2.4610E-06	7.3818E+04
9.200	2.3638E-06	7.3712E+04
9.500	2.3048E-06	7.3607E+04
9.800	2.2690E-06	7.3502E+04
10.100	2.2475E-06	7.3396E+04
10.400	2.2346E-06	7.3291E+04
16.000	2.2105E-06	7.1356E+04
24.000	2.1634E-06	6.8675E+04

48.000	4.3798E-07	6.2125E+04
96.000	3.3636E-07	5.0791E+04
720.000	6.9062E-09	3.6577E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

Time (hr)	Exclusion Area Bounda Thyroid (rem)	Exclusion Area Bounda TEDE (rem)	Low Population Zone Thyroid (rem)	Low Population Zone TEDE (rem)	Control Room Thyroid (rem)	Control Room TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.0978E-01	5.3641E-03	1.1503E-02	5.6205E-04	4.3395E-02	1.8902E-03
0.417	1.2202E+00	5.9676E-02	1.2785E-01	6.2529E-03	1.2146E+00	5.2901E-02
0.500	1.2250E+00	6.0204E-02	1.2871E-01	6.3466E-03	1.8203E+00	7.9280E-02
0.667	1.2260E+00	6.0336E-02	1.2993E-01	6.5082E-03	2.5175E+00	1.0965E-01
0.920	1.2283E+00	6.0799E-02	1.3274E-01	7.0789E-03	3.0939E+00	1.3475E-01
1.170	1.2316E+00	6.1747E-02	1.3675E-01	8.2469E-03	3.4702E+00	1.5115E-01
1.420	1.2359E+00	6.3339E-02	1.4204E-01	1.0206E-02	3.7201E+00	1.6205E-01
1.670	1.2412E+00	6.5689E-02	1.4862E-01	1.3101E-02	3.8862E+00	1.6932E-01
1.920	1.2476E+00	6.8885E-02	1.5650E-01	1.7037E-02	3.9967E+00	1.7419E-01
2.000	1.2499E+00	7.0097E-02	1.5930E-01	1.8529E-02	4.0236E+00	1.7539E-01
2.200	1.2559E+00	7.3554E-02	1.6248E-01	2.0360E-02	4.0775E+00	1.7780E-01
2.300	1.2590E+00	7.5473E-02	1.6412E-01	2.1376E-02	4.0986E+00	1.7874E-01
2.600	1.2685E+00	8.1891E-02	1.6913E-01	2.4776E-02	4.1447E+00	1.8084E-01
2.900	1.2781E+00	8.9143E-02	1.7427E-01	2.8617E-02	4.1732E+00	1.8218E-01
3.200	1.2880E+00	9.7059E-02	1.7949E-01	3.2810E-02	4.1909E+00	1.8305E-01
3.500	1.2980E+00	1.0549E-01	1.8476E-01	3.7276E-02	4.2020E+00	1.8364E-01
3.800	1.3080E+00	1.1432E-01	1.9006E-01	4.1952E-02	4.2091E+00	1.8407E-01
4.000	1.3146E+00	1.2037E-01	1.9359E-01	4.5158E-02	4.2125E+00	1.8430E-01
4.300	1.3246E+00	1.2964E-01	1.9889E-01	5.0065E-02	4.2160E+00	1.8458E-01
4.600	1.3346E+00	1.3906E-01	2.0419E-01	5.5055E-02	4.2185E+00	1.8482E-01
4.900	1.3446E+00	1.4857E-01	2.0947E-01	6.0094E-02	4.2204E+00	1.8503E-01
5.200	1.3546E+00	1.5812E-01	2.1475E-01	6.5154E-02	4.2218E+00	1.8523E-01
5.500	1.3645E+00	1.6767E-01	2.2003E-01	7.0212E-02	4.2230E+00	1.8542E-01
5.800	1.3745E+00	1.7718E-01	2.2529E-01	7.5249E-02	4.2240E+00	1.8560E-01
6.100	1.3844E+00	1.8662E-01	2.3055E-01	8.0248E-02	4.2249E+00	1.8578E-01
6.400	1.3943E+00	1.9596E-01	2.3580E-01	8.5197E-02	4.2258E+00	1.8595E-01
6.700	1.4042E+00	2.0519E-01	2.4104E-01	9.0085E-02	4.2267E+00	1.8613E-01
7.000	1.4141E+00	2.1429E-01	2.4627E-01	9.4904E-02	4.2275E+00	1.8630E-01
7.300	1.4239E+00	2.2325E-01	2.5149E-01	9.9648E-02	4.2283E+00	1.8647E-01
7.600	1.4338E+00	2.3205E-01	2.5670E-01	1.0431E-01	4.2291E+00	1.8664E-01
7.900	1.4436E+00	2.4069E-01	2.6191E-01	1.0889E-01	4.2299E+00	1.8680E-01
8.000	1.4469E+00	2.4354E-01	2.6364E-01	1.1040E-01	4.2302E+00	1.8685E-01
8.300	1.4567E+00	2.5196E-01	2.6539E-01	1.1324E-01	4.2309E+00	1.8701E-01
8.600	1.4664E+00	2.6022E-01	2.6713E-01	1.1603E-01	4.2315E+00	1.8714E-01
8.900	1.4762E+00	2.6831E-01	2.6888E-01	1.1876E-01	4.2321E+00	1.8726E-01
9.200	1.4859E+00	2.7623E-01	2.7061E-01	1.2143E-01	4.2327E+00	1.8737E-01
9.500	1.4957E+00	2.8398E-01	2.7235E-01	1.2404E-01	4.2333E+00	1.8748E-01
9.800	1.5054E+00	2.9157E-01	2.7408E-01	1.2660E-01	4.2338E+00	1.8758E-01
10.100	1.5150E+00	2.9899E-01	2.7581E-01	1.2909E-01	4.2343E+00	1.8768E-01
10.400	1.5247E+00	3.0625E-01	2.7753E-01	1.3154E-01	4.2348E+00	1.8778E-01
16.000	1.7014E+00	4.1978E-01	3.0908E-01	1.6956E-01	4.2443E+00	1.8936E-01
24.000	1.9403E+00	5.3306E-01	3.5175E-01	2.0706E-01	4.2571E+00	1.9106E-01
48.000	2.3658E+00	6.8333E-01	3.9070E-01	2.2706E-01	4.2633E+00	1.9175E-01
96.000	2.8774E+00	8.3385E-01	4.3754E-01	2.4685E-01	4.2702E+00	1.9243E-01
720.000	4.8851E+00	1.3326E+00	4.8706E-01	2.6360E-01	4.2754E+00	1.9301E-01

```
#####################################################################
                        Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	1.5757E-02	1.2499E+00	7.0097E-02

Attachment 12.2a - RADTRAD Output File "DRE3ES395_Fram.o0" (Framatome Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:08
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3ES395_Fram.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_i.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3 ESF Leakage - Core Burnup = 39 GWD/MTU, ESF Leakage = 2 gpm, Flashing Factor
10%, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 395 cfm for >0.6667 hrs, and CREV
Initiation @ 40 Minutes
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   4
 Compartment 1:
 Suppression Pool
   3
  1.1000E+05
   0
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
Suppression Pool to Reactor Building
  1
  2
  2
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_i.rft
  0.0000E+00
  1
  0.0000E+00   9.7000E-01   3.0000E-02   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  4
Compartment 1:
  0
  1
  0
  0
  0
  0
  0
  0
  0
```

```
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
  0
  0
  0
  0
  0
  1
  3
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.6740E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
```

```
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
  8.0000E+00   2.3400E-06
  2.4000E+01   9.3900E-07
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
  8
```

```
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3ES395_Fram.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:08
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   4

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Suppression Pool
Compartment volume =   1.1000E+05 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  1
   Exit Pathway Number    1: Suppression Pool to Reactor Building

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Suppression Pool to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
   Exit Pathway Number    5: Control Room Exhaust to Environment
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Total number of pathways =   5
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#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:15:08
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
             0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
IODINE       5.0000E-02     2.5000E-01      0.0000E+00        2.575E+02
CESIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
TELLURIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
STRONTIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
BARIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
RUTHENIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
CERIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
LANTHANUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 I-131     2   2.666E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.879E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.504E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.100E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.238E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10

Nuclide    Daughter  Fraction   Daughter  Fraction   Daughter  Fraction
 Kr-85m    Kr-85      0.21       none       0.00       none       0.00
 Kr-87     Rb-87      1.00       none       0.00       none       0.00
 Kr-88     Rb-88      1.00       none       0.00       none       0.00
 Sr-90     Y-90       1.00       none       0.00       none       0.00
 Sr-91     Y-91m      0.58       Y-91       0.42       none       0.00
 Sr-92     Y-92       1.00       none       0.00       none       0.00
 Y-93      Zr-93      1.00       none       0.00       none       0.00
 Zr-95     Nb-95m     0.01       Nb-95      0.99       none       0.00
 Zr-97     Nb-97m     0.95       Nb-97      0.05       none       0.00
 Mo-99     Tc-99m     0.88       Tc-99      0.12       none       0.00
 Tc-99m    Tc-99      1.00       none       0.00       none       0.00
 Ru-103    Rh-103m    1.00       none       0.00       none       0.00
 Ru-105    Rh-105     1.00       none       0.00       none       0.00
 Ru-106    Rh-106     1.00       none       0.00       none       0.00
 Sb-127    Te-127m    0.18       Te-127     0.82       none       0.00
 Sb-129    Te-129m    0.22       Te-129     0.77       none       0.00
 Te-127m   Te-127     0.98       none       0.00       none       0.00
 Te-129    I-129      1.00       none       0.00       none       0.00
 Te-129m   Te-129     0.65       I-129      0.35       none       0.00
 Te-131m   Te-131     0.22       I-131      0.78       none       0.00
 Te-132    I-132      1.00       none       0.00       none       0.00
 I-131     Xe-131m    0.01       none       0.00       none       0.00
 I-133     Xe-133m    0.03       Xe-133     0.97       none       0.00
 I-135     Xe-135m    0.15       Xe-135     0.85       none       0.00
 Xe-135    Cs-135     1.00       none       0.00       none       0.00
 Cs-137    Ba-137m    0.95       none       0.00       none       0.00
 Ba-140    La-140     1.00       none       0.00       none       0.00
 La-141    Ce-141     1.00       none       0.00       none       0.00
 Ce-143    Pr-143     1.00       none       0.00       none       0.00
 Ce-144    Pr-144m    0.02       Pr-144     0.98       none       0.00
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Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 0.0000E+00
Elemental = 9.7000E-01
Organic = 3.0000E-02

COMPARTMENT DATA

Compartment number 1: Suppression Pool

Compartment number 2: Reactor Building

Compartment number 3: Environment

Compartment number 4: Control Room

PATHWAY DATA

Pathway number 1: Suppression Pool to Reactor Building

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: Reactor Building to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
4.1700E-01	8.7400E-05
5.0000E-01	6.7400E-06
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
4.1700E-01	1.5500E-05
5.0000E-01	8.3000E-06
2.0000E+00	3.5700E-06
8.0000E+00	2.3400E-06
2.4000E+01	9.3900E-07
9.6000E+01	2.5300E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

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     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
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#######################################################################
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#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
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Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.3323E-05  2.1500E-02  7.7217E-04
Accumulated dose (rem)  9.3323E-05  2.1500E-02  7.7217E-04

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.7784E-06  2.2528E-03  8.0909E-05
Accumulated dose (rem)  9.7784E-06  2.2528E-03  8.0909E-05

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1243E-06  1.8652E-02  5.9197E-04
Accumulated dose (rem)  3.1243E-06  1.8652E-02  5.9197E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
I-131                  9.9552E+00  8.0300E-08  3.6915E+17  1.8956E+14
I-132                  1.3324E+01  1.2909E-09  5.8892E+15  2.5916E+14
I-133                  2.0299E+01  1.7919E-08  8.1137E+16  3.8772E+14
I-134                  1.6407E+01  6.1504E-10  2.7641E+15  3.3978E+14
I-135                  1.8753E+01  5.3399E-09  2.3821E+16  3.6088E+14
Xe-133                 3.0651E-02  1.6375E-10  7.4145E+14  4.2642E+11
Xe-135                 3.4379E-01  1.3462E-10  6.0053E+14  4.8113E+12

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    1.3420E+15  0.0000E+00
Elemental I (atoms)    4.6827E+17  0.0000E+00
Organic I (atoms)      1.4483E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.1931E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.7783E-10
Total I (Ci)                                   7.8739E+01

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8049E+14
Elemental I (atoms)    0.0000E+00  4.7736E+17
Organic I (atoms)      0.0000E+00  1.4764E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6109E+13
Elemental I (atoms)    0.0000E+00  7.5948E+15
Organic I (atoms)      0.0000E+00  2.3489E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2591E-06  5.4450E-04  1.9439E-05
Accumulated dose (rem)  9.5582E-05  2.2044E-02  7.9161E-04
```

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.0064E-07	9.6564E-05	3.4474E-06
Accumulated dose (rem)	1.0179E-05	2.3493E-03	8.4356E-05

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8491E-06	1.1553E-02	3.6635E-04
Accumulated dose (rem)	4.9734E-06	3.0205E-02	9.5833E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
I-131	1.4290E+01	1.1527E-07	5.2988E+17	3.2571E+14
I-132	1.8817E+01	1.8230E-09	8.3168E+15	4.3991E+14
I-133	2.9066E+01	2.5658E-08	1.1618E+17	6.6498E+14
I-134	2.2062E+01	8.2700E-10	3.7166E+15	5.5659E+14
I-135	2.6693E+01	7.6008E-09	3.3906E+16	6.1622E+14
Xe-133	5.2546E-02	2.8072E-10	1.2711E+15	8.7908E+11
Xe-135	5.8589E-01	2.2943E-10	1.0234E+15	9.8722E+12

Reactor Building Transport Group Inventory:

Time (h) = 0.5000	Atmosphere	Sump
Noble gases (atoms)	2.2945E+15	0.0000E+00
Elemental I (atoms)	6.7124E+17	0.0000E+00
Organic I (atoms)	2.0760E+16	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc)	I-131 (Thyroid)	3.1446E-10
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	3.9764E-10
Total I (Ci)		1.1093E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1697E+15
Elemental I (atoms)	0.0000E+00	6.8688E+17
Organic I (atoms)	0.0000E+00	2.1244E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3274E+13
Elemental I (atoms)	4.9686E+15	8.1469E+15
Organic I (atoms)	1.5367E+14	2.5196E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5300E-07	1.3887E-04	4.9321E-06
Accumulated dose (rem)	9.6135E-05	2.2183E-02	7.9654E-04

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8100E-07	1.7101E-04	6.0736E-06
Accumulated dose (rem)	1.0860E-05	2.5203E-03	9.0430E-05

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE

```
Delta dose (rem)        2.0473E-06  1.3339E-02  4.2265E-04
Accumulated dose (rem)  7.0207E-06  4.3544E-02  1.3810E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
I-131                  2.6355E+01  2.1258E-07  9.7724E+17  7.7534E+14
I-132                  3.3730E+01  3.2678E-09  1.4908E+16  1.0229E+15
I-133                  5.3338E+01  4.7084E-08  2.1319E+17  1.5770E+15
I-134                  3.5683E+01  1.3376E-09  6.0114E+15  1.2029E+15
I-135                  4.8403E+01  1.3783E-08  6.1483E+16  1.4483E+15
Xe-133                 1.2446E-01  6.6492E-10  3.0107E+15  2.7643E+12
Xe-135                 1.3714E+00  5.3700E-10  2.3955E+15  3.0751E+13

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    5.4062E+15  0.0000E+00
Elemental I (atoms)    1.2347E+18  0.0000E+00
Organic I (atoms)      3.8185E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.7870E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.2926E-10
Total I (Ci)                                   1.9751E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7836E+15
Elemental I (atoms)    0.0000E+00  1.2719E+18
Organic I (atoms)      0.0000E+00  3.9336E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0470E+14
Elemental I (atoms)    2.1394E+16  9.9719E+15
Organic I (atoms)      6.6167E+14  3.0841E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3701E-05  7.5711E-03  2.6164E-04
Accumulated dose (rem)  1.1984E-04  2.9754E-02  1.0582E-03

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9186E-05  9.3234E-03  3.2219E-04
Accumulated dose (rem)  4.0046E-05  1.1844E-02  4.1262E-04

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.8372E-06  2.9517E-02  9.3242E-04
Accumulated dose (rem)  1.0858E-05  7.3060E-02  2.3134E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg         Atoms      Decay
I-131                  2.9815E+02  2.4049E-06  1.1056E+19  2.5323E+16
I-132                  3.0280E+02  2.9335E-08  1.3383E+17  2.8084E+16
I-133                  5.7979E+02  5.1181E-07  2.3175E+18  4.9957E+16
I-134                  1.4131E+02  5.2970E-09  2.3806E+16  1.8347E+16
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I-135                  4.7828E+02  1.3619E-07  6.0752E+17  4.2675E+16
Xe-133                 3.8999E+00  2.0835E-08  9.4338E+16  2.5175E+14
Xe-135                 3.9075E+01  1.5301E-08  6.8257E+16  2.5941E+15

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    1.6259E+17  0.0000E+00
Elemental I (atoms)    1.3714E+19  0.0000E+00
Organic I (atoms)      4.2415E+17  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.4422E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.9456E-09
Total I (Ci)                                   1.8003E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0019E+16
Elemental I (atoms)    0.0000E+00  1.4898E+19
Organic I (atoms)      0.0000E+00  4.6076E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3105E+15
Elemental I (atoms)    9.1517E+17  1.0928E+17
Organic I (atoms)      2.8304E+16  3.3798E+15
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1451E-04  4.7742E-02  1.6090E-03
Accumulated dose (rem)  2.3434E-04  7.7496E-02  2.6672E-03

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0651E-05  2.5288E-02  8.5223E-04
Accumulated dose (rem)  1.0070E-04  3.7131E-02  1.2649E-03

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.9096E-07  6.6724E-03  2.0964E-04
Accumulated dose (rem)  1.1549E-05  7.9733E-02  2.5230E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   4.0000       Ci           kg         Atoms      Decay
I-131                  8.5265E+02  6.8776E-06  3.1617E+19  1.8541E+17
I-132                  5.1208E+02  4.9610E-08  2.2633E+17  1.5133E+17
I-133                  1.5622E+03  1.3790E-06  6.2440E+18  3.5079E+17
I-134                  8.3715E+01  3.1381E-09  1.4103E+16  5.2127E+16
I-135                  1.1169E+03  3.1803E-07  1.4187E+18  2.7153E+17
Xe-133                 2.6217E+01  1.4006E-07  6.3419E+17  3.8349E+15
Xe-135                 2.2830E+02  8.9398E-08  3.9879E+17  3.5450E+16

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    1.0330E+18  0.0000E+00
Elemental I (atoms)    3.8334E+19  0.0000E+00
Organic I (atoms)      1.1856E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
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Dose Effective (Ci/cc) I-131 (Thyroid)         1.8021E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.1707E-08
Total I (Ci)                                   4.1275E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3516E+17
Elemental I (atoms)    0.0000E+00  4.6595E+19
Organic I (atoms)      0.0000E+00  1.4411E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3397E+17
Elemental I (atoms)    6.5449E+18  7.3480E+17
Organic I (atoms)      2.0242E+17  2.2726E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6073E-04  2.0001E-01  6.5897E-03
Accumulated dose (rem)  5.9507E-04  2.7750E-01  9.2569E-03

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9107E-04  1.0594E-01  3.4904E-03
Accumulated dose (rem)  2.9177E-04  1.4307E-01  4.7553E-03

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7287E-06  1.4536E-02  4.5442E-04
Accumulated dose (rem)  1.3278E-05  9.4269E-02  2.9775E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
I-131                  1.6175E+03  1.3047E-05  5.9979E+19  8.6591E+17
I-132                  3.0032E+02  2.9095E-08  1.3274E+17  3.7872E+17
I-133                  2.6311E+03  2.3226E-06  1.0517E+19  1.5193E+18
I-134                  6.8169E+00  2.5554E-10  1.1484E+15  6.9635E+16
I-135                  1.4130E+03  4.0235E-07  1.7948E+18  9.8978E+17
Xe-133                 1.0784E+02  5.7613E-07  2.6087E+18  3.8077E+16
Xe-135                 7.0697E+02  2.7684E-07  1.2349E+18  2.8724E+17

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    3.8436E+18  0.0000E+00
Elemental I (atoms)    7.0252E+19  0.0000E+00
Organic I (atoms)      2.1727E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.2932E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.8443E-08
Total I (Ci)                                   5.9688E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.0987E+18
Elemental I (atoms)    0.0000E+00  1.0747E+20
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Organic I (atoms)      0.0000E+00  3.3239E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2448E+18
Elemental I (atoms)    3.0155E+19  3.3581E+18
Organic I (atoms)      9.3261E+17  1.0386E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.4428E-04  6.1539E-01  1.9903E-02
Accumulated dose (rem)  1.4393E-03  8.9289E-01  2.9160E-02

Low Population Zone Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9312E-04  1.0988E-01  3.6961E-03
Accumulated dose (rem)  5.8488E-04  2.5295E-01  8.4514E-03

Control Room Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1064E-06  3.2885E-02  1.0227E-03
Accumulated dose (rem)  1.7384E-05  1.2715E-01  4.0001E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  16.0000       Ci           kg         Atoms      Decay
I-131                  2.3391E+03  1.8867E-05  8.6735E+19  3.0600E+18
I-132                  4.0348E+01  3.9088E-09  1.7833E+16  5.2379E+17
I-133                  2.9994E+03  2.6477E-06  1.1989E+19  4.6727E+18
I-134                  1.8164E-02  6.8090E-13  3.0601E+12  7.0905E+16
I-135                  9.0882E+02  2.5879E-07  1.1544E+18  2.2711E+18
Xe-133                 2.9679E+02  1.5856E-06  7.1793E+18  2.5321E+17
Xe-135                 1.1082E+03  4.3395E-07  1.9358E+18  1.3178E+18

Reactor Building Transport Group Inventory:
Time (h) =  16.0000    Atmosphere     Sump
Noble gases (atoms)    9.1151E+18  0.0000E+00
Elemental I (atoms)    9.6899E+19  0.0000E+00
Organic I (atoms)      2.9969E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.4965E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0506E-08
Total I (Ci)                                   6.2876E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1620E+19
Elemental I (atoms)    0.0000E+00  2.2193E+20
Organic I (atoms)      0.0000E+00  6.8637E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.3971E+18
Elemental I (atoms)    1.0327E+20  1.1482E+19
Organic I (atoms)      3.1938E+18  3.5510E+17
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Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5364E-04  7.1235E-01  2.2720E-02
Accumulated dose (rem)  2.1930E-03  1.6052E+00  5.1880E-02

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6165E-04  1.2719E-01  4.1837E-03
Accumulated dose (rem)  8.4653E-04  3.8014E-01  1.2635E-02

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2199E-06  3.7795E-02  1.1697E-03
Accumulated dose (rem)  2.1604E-05  1.6495E-01  5.1698E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
I-131                  2.5643E+03  2.0684E-05  9.5085E+19  5.7175E+18
I-132                  4.0904E+00  3.9627E-10  1.8079E+15  5.4100E+17
I-133                  2.5921E+03  2.2882E-06  1.0361E+19  7.7006E+18
I-134                  3.6692E-05  1.3754E-15  6.1814E+09  7.0908E+16
I-135                  4.4314E+02  1.2618E-07  5.6289E+17  2.9749E+18
Xe-133                 4.4468E+02  2.3757E-06  1.0757E+19  6.4763E+17
Xe-135                 9.4742E+02  3.7100E-07  1.6550E+18  2.4246E+18

Reactor Building Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    1.2412E+19  0.0000E+00
Elemental I (atoms)    1.0283E+20  0.0000E+00
Organic I (atoms)      3.1803E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.7221E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1703E-08
Total I (Ci)                                   5.6036E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3007E+19
Elemental I (atoms)    0.0000E+00  3.2905E+20
Organic I (atoms)      0.0000E+00  1.0177E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7521E+19
Elemental I (atoms)    1.8875E+20  2.0980E+19
Organic I (atoms)      5.8376E+18  6.4886E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3623E-03  2.0814E+00  6.5230E-02
Accumulated dose (rem)  3.5552E-03  3.6866E+00  1.1711E-01

Low Population Zone Doses:
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Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8979E-04  1.9055E-01  6.0370E-03
Accumulated dose (rem)  1.0363E-03  5.7069E-01  1.8672E-02

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0189E-06  2.9186E-02  8.9771E-04
Accumulated dose (rem)  2.3623E-05  1.9414E-01  6.0675E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  48.0000       Ci           kg         Atoms      Decay
I-131                  2.5133E+03  2.0272E-05  9.3193E+19  1.3960E+19
I-132                  3.1594E-03  3.0608E-13  1.3964E+12  5.4285E+17
I-133                  1.2446E+03  1.0987E-06  4.9746E+18  1.3667E+19
I-135                  3.8217E+01  1.0882E-08  4.8544E+16  3.5119E+18
Xe-133                 6.4376E+02  3.4392E-06  1.5573E+19  2.4480E+18
Xe-135                 2.5114E+02  9.8345E-08  4.3870E+17  4.1815E+18

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.6011E+19  0.0000E+00
Elemental I (atoms)    9.5270E+19  0.0000E+00
Organic I (atoms)      2.9465E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.2715E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.4718E-08
Total I (Ci)                                   3.7961E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.5144E+19
Elemental I (atoms)    0.0000E+00  6.1838E+20
Organic I (atoms)      0.0000E+00  1.9125E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8745E+19
Elemental I (atoms)    4.4307E+20  4.9237E+19
Organic I (atoms)      1.3703E+19  1.5228E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1346E-03  3.4811E+00  1.0743E-01
Accumulated dose (rem)  4.6898E-03  7.1677E+00  2.2454E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5807E-04  3.1870E-01  9.8898E-03
Accumulated dose (rem)  1.1944E-03  8.8939E-01  2.8562E-02

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2014E-06  4.6818E-02  1.4308E-03
Accumulated dose (rem)  2.4824E-05  2.4095E-01  7.4983E-03

Reactor Building Compartment Nuclide Inventory:
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Time (h) = 96.0000	Ci	kg	Atoms	Decay
I-131	2.1224E+03	1.7119E-05	7.8698E+19	2.8765E+19
I-132	1.6547E-09	1.6030E-19	7.3135E+05	5.4285E+17
I-133	2.5223E+02	2.2266E-07	1.0082E+18	1.7648E+19
I-135	2.4988E-01	7.1152E-11	3.1740E+14	3.5603E+18
Xe-133	6.3193E+02	3.3760E-06	1.5286E+19	6.6490E+18
Xe-135	8.2178E+00	3.2180E-09	1.4355E+16	4.6480E+18

Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5301E+19	0.0000E+00	
Elemental I (atoms)	7.7316E+19	0.0000E+00	
Organic I (atoms)	2.3912E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.3970E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.4370E-08
Total I (Ci)			2.3748E+03

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5570E+20
Elemental I (atoms)	0.0000E+00	1.1025E+21
Organic I (atoms)	0.0000E+00	3.4096E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4925E+20
Elemental I (atoms)	8.7845E+20	9.7614E+19
Organic I (atoms)	2.7169E+19	3.0190E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4183E-03	1.5810E+01	4.8484E-01
Accumulated dose (rem)	8.1081E-03	2.2978E+01	7.0938E-01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2831E-04	3.8999E-01	1.2004E-02
Accumulated dose (rem)	1.3227E-03	1.2794E+00	4.0566E-02

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7852E-07	4.0737E-02	1.2411E-03
Accumulated dose (rem)	2.5403E-05	2.8169E-01	8.7394E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
I-131	2.2356E+02	1.8033E-06	8.2897E+18	9.8889E+19
I-133	2.3278E-07	2.0549E-16	9.3045E+08	1.8656E+19
Xe-133	2.1709E+01	1.1598E-07	5.2514E+17	2.2346E+19

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	5.2514E+17	0.0000E+00
Elemental I (atoms)	8.0410E+18	0.0000E+00
Organic I (atoms)	2.4869E+17	0.0000E+00

```
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.5089E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5089E-09
Total I (Ci)                                   2.2356E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9110E+20
Elemental I (atoms)    0.0000E+00  3.3315E+21
Organic I (atoms)      0.0000E+00  1.0304E+20
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.8469E+20
Elemental I (atoms)    2.8848E+21  3.2054E+20
Organic I (atoms)      8.9222E+19  9.9137E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

   1020

#################################################################
                            I-131 Summary
#################################################################

             Suppression Pool      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.4667E+03             0.0000E+00           0.0000E+00
   0.033       2.6770E+05             0.0000E+00           0.0000E+00
   0.290       2.3294E+06             4.8079E+00           5.3405E-02
   0.417       3.3480E+06             9.9552E+00           1.6115E-01
   0.500       4.0133E+06             1.4290E+01           1.7290E-01
   0.667       6.2401E+06             2.6355E+01           2.1180E-01
   0.920       9.6189E+06             5.4444E+01           3.2899E-01
   1.170       1.2948E+07             9.3383E+01           5.4312E-01
   1.420       1.6272E+07             1.4311E+02           8.8737E-01
   1.670       1.9590E+07             2.0328E+02           1.3929E+00
   1.920       2.2903E+07             2.7357E+02           2.0898E+00
   2.000       2.3962E+07             2.9815E+02           2.3581E+00
   2.400       2.3927E+07             4.2044E+02           4.0465E+00
   2.700       2.3901E+07             5.0823E+02           5.6816E+00
   3.000       2.3875E+07             5.9277E+02           7.6200E+00
   3.300       2.3849E+07             6.7420E+02           9.8503E+00
   3.600       2.3824E+07             7.5261E+02           1.2362E+01
   3.900       2.3798E+07             8.2811E+02           1.5144E+01
   4.000       2.3789E+07             8.5265E+02           1.6130E+01
   4.300       2.3764E+07             9.2445E+02           1.9258E+01
   4.600       2.3738E+07             9.9357E+02           2.2634E+01
   4.900       2.3712E+07             1.0601E+03           2.6249E+01
   5.200       2.3687E+07             1.1242E+03           3.0093E+01
   5.500       2.3661E+07             1.1859E+03           3.4159E+01
   5.800       2.3635E+07             1.2452E+03           3.8437E+01
   6.100       2.3610E+07             1.3024E+03           4.2921E+01
   6.400       2.3584E+07             1.3574E+03           4.7602E+01
   6.700       2.3559E+07             1.4103E+03           5.2473E+01
   7.000       2.3533E+07             1.4613E+03           5.7527E+01
   7.300       2.3508E+07             1.5103E+03           6.2756E+01
   7.600       2.3482E+07             1.5574E+03           6.8155E+01
   7.900       2.3457E+07             1.6028E+03           7.3716E+01
   8.000       2.3449E+07             1.6175E+03           7.5605E+01
   8.300       2.3423E+07             1.6606E+03           8.1374E+01
   8.600       2.3398E+07             1.7020E+03           8.7292E+01
   8.900       2.3373E+07             1.7419E+03           9.3353E+01
```

9.200	2.3347E+07	1.7802E+03	9.9551E+01
9.500	2.3322E+07	1.8171E+03	1.0588E+02
9.800	2.3297E+07	1.8525E+03	1.1234E+02
10.100	2.3272E+07	1.8866E+03	1.1892E+02
10.400	2.3246E+07	1.9193E+03	1.2562E+02
16.000	2.2782E+07	2.3391E+03	2.6711E+02
24.000	2.2134E+07	2.5643E+03	4.9909E+02
48.000	2.0298E+07	2.5133E+03	1.2229E+03
96.000	1.7072E+07	2.1224E+03	2.5246E+03
720.000	1.7982E+06	2.2356E+02	8.6907E+03

Time (hr)	Control Room I-131 (Curies)
0.000	0.0000E+00
0.033	0.0000E+00
0.290	7.4966E-05
0.417	2.0094E-04
0.500	1.3740E-04
0.667	6.4391E-05
0.920	4.2738E-05
1.170	2.8662E-05
1.420	1.9430E-05
1.670	1.3454E-05
1.920	9.6760E-06
2.000	8.8084E-06
2.400	5.2969E-06
2.700	3.9779E-06
3.000	3.3029E-06
3.300	3.0180E-06
3.600	2.9675E-06
3.900	3.0562E-06
4.000	3.1058E-06
4.300	3.2937E-06
4.600	3.5185E-06
4.900	3.7619E-06
5.200	4.0127E-06
5.500	4.2643E-06
5.800	4.5127E-06
6.100	4.7556E-06
6.400	4.9918E-06
6.700	5.2206E-06
7.000	5.4417E-06
7.300	5.6550E-06
7.600	5.8606E-06
7.900	6.0586E-06
8.000	6.1229E-06
8.300	5.4652E-06
8.600	5.1057E-06
8.900	4.9275E-06
9.200	4.8589E-06
9.500	4.8559E-06
9.800	4.8916E-06
10.100	4.9497E-06
10.400	5.0201E-06
16.000	6.2135E-06
24.000	6.8859E-06
48.000	2.8378E-06
96.000	2.3972E-06
720.000	7.2011E-08

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)

0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.290	7.1339E-03	2.5739E-04	7.4750E-04	2.6970E-05	4.6695E-03	1.4831E-04
0.417	2.1500E-02	7.7217E-04	2.2528E-03	8.0909E-05	1.8652E-02	5.9197E-04
0.500	2.2044E-02	7.9161E-04	2.3493E-03	8.4356E-05	3.0205E-02	9.5833E-04
0.667	2.2183E-02	7.9654E-04	2.5203E-03	9.0430E-05	4.3544E-02	1.3810E-03
0.920	2.2600E-02	8.1124E-04	3.0340E-03	1.0853E-04	5.4633E-02	1.7319E-03
1.170	2.3360E-02	8.3782E-04	3.9698E-03	1.4126E-04	6.1907E-02	1.9617E-03
1.420	2.4578E-02	8.8013E-04	5.4696E-03	1.9336E-04	6.6791E-02	2.1159E-03
1.670	2.6361E-02	9.4171E-04	7.6656E-03	2.6920E-04	7.0121E-02	2.2208E-03
1.920	2.8813E-02	1.0259E-03	1.0684E-02	3.7290E-04	7.2457E-02	2.2944E-03
2.000	2.9754E-02	1.0582E-03	1.1844E-02	4.1262E-04	7.3060E-02	2.3134E-03
2.400	3.5669E-02	1.2601E-03	1.4977E-02	5.1957E-04	7.5295E-02	2.3837E-03
2.700	4.1375E-02	1.4538E-03	1.7999E-02	6.2218E-04	7.6410E-02	2.4187E-03
3.000	4.8117E-02	1.6817E-03	2.1570E-02	7.4288E-04	7.7285E-02	2.4462E-03
3.300	5.5848E-02	1.9421E-03	2.5665E-02	8.8079E-04	7.8045E-02	2.4701E-03
3.600	6.4525E-02	2.2333E-03	3.0261E-02	1.0351E-03	7.8764E-02	2.4926E-03
3.900	7.4108E-02	2.5540E-03	3.5337E-02	1.2049E-03	7.9486E-02	2.5153E-03
4.000	7.7496E-02	2.6672E-03	3.7131E-02	1.2649E-03	7.9733E-02	2.5230E-03
4.300	8.8224E-02	3.0249E-03	4.2813E-02	1.4543E-03	8.0498E-02	2.5470E-03
4.600	9.9766E-02	3.4088E-03	4.8927E-02	1.6577E-03	8.1311E-02	2.5725E-03
4.900	1.1209E-01	3.8178E-03	5.5453E-02	1.8743E-03	8.2178E-02	2.5996E-03
5.200	1.2515E-01	4.2507E-03	6.2374E-02	2.1036E-03	8.3100E-02	2.6285E-03
5.500	1.3893E-01	4.7063E-03	6.9671E-02	2.3449E-03	8.4080E-02	2.6592E-03
5.800	1.5339E-01	5.1836E-03	7.7329E-02	2.5977E-03	8.5116E-02	2.6916E-03
6.100	1.6849E-01	5.6816E-03	8.5331E-02	2.8615E-03	8.6207E-02	2.7257E-03
6.400	1.8422E-01	6.1992E-03	9.3662E-02	3.1357E-03	8.7351E-02	2.7615E-03
6.700	2.0054E-01	6.7357E-03	1.0231E-01	3.4199E-03	8.8546E-02	2.7988E-03
7.000	2.1743E-01	7.2901E-03	1.1125E-01	3.7135E-03	8.9790E-02	2.8377E-03
7.300	2.3486E-01	7.8615E-03	1.2048E-01	4.0162E-03	9.1082E-02	2.8780E-03
7.600	2.5281E-01	8.4493E-03	1.2999E-01	4.3275E-03	9.2419E-02	2.9197E-03
7.900	2.7125E-01	9.0525E-03	1.3976E-01	4.6470E-03	9.3799E-02	2.9628E-03
8.000	2.7750E-01	9.2569E-03	1.4307E-01	4.7553E-03	9.4269E-02	2.9775E-03
8.300	2.9656E-01	9.8796E-03	1.4647E-01	4.8716E-03	9.5600E-02	3.0190E-03
8.600	3.1607E-01	1.0516E-02	1.4996E-01	4.9904E-03	9.6813E-02	3.0568E-03
8.900	3.3600E-01	1.1166E-02	1.5351E-01	5.1116E-03	9.7962E-02	3.0926E-03
9.200	3.5633E-01	1.1828E-02	1.5714E-01	5.2351E-03	9.9082E-02	3.1275E-03
9.500	3.7704E-01	1.2502E-02	1.6084E-01	5.3608E-03	1.0019E-01	3.1621E-03
9.800	3.9812E-01	1.3188E-02	1.6461E-01	5.4885E-03	1.0130E-01	3.1967E-03
10.100	4.1955E-01	1.3884E-02	1.6843E-01	5.6182E-03	1.0242E-01	3.2316E-03
10.400	4.4131E-01	1.4591E-02	1.7232E-01	5.7497E-03	1.0355E-01	3.2668E-03
16.000	8.9289E-01	2.9160E-02	2.5295E-01	8.4514E-03	1.2715E-01	4.0001E-03
24.000	1.6052E+00	5.1880E-02	3.8014E-01	1.2635E-02	1.6495E-01	5.1698E-03
48.000	3.6866E+00	1.1711E-01	5.7069E-01	1.8672E-02	1.9414E-01	6.0675E-03
96.000	7.1677E+00	2.2454E-01	8.8939E-01	2.8562E-02	2.4095E-01	7.4983E-03
720.000	2.2978E+01	7.0938E-01	1.2794E+00	4.0566E-02	2.8169E-01	8.7394E-03

```
#####################################################################
                        Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
16.0	1.8841E-04	1.7809E-01	5.6800E-03

Attachment 12.3a - RADTRAD Output File "DRE3MS395_Fram.o0" (Framatome Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:49:11
 ######################################################################

 ######################################################################
                     File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS395_Fram.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
Drywell to Intact Control Volume 2
```

```
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
```

```
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
```

```
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
```

```
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS395_Fram.o0
  1
  1
  1
  0
  0
End of Scenario File
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:49:11
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
```

```
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:49:11
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.371E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.575E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.021E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.653E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.858E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.034E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.483E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.875E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        6.363E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.542E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   6.764E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.356E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   1.883E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   5.106E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.593E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   4.078E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.289E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.481E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   4.211E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.349E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.514E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   2.666E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.774E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.642E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.774E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.006E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.443E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.024E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.880E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.831E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.377E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.653E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.361E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   4.045E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.222E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.664E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   5.404E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.813E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.666E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.879E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.504E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.100E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.238E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
       3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00
     Location Low Population Zone     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       2.0000E+00          1.0900E-05
       8.0000E+00          7.0200E-06
       2.4000E+01          2.7000E-06
       9.6000E+01          6.8600E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       8.0000E+00                 1.8000E-04
       2.4000E+01                 2.3000E-04
       7.2000E+02                 0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
```

```
 Time (hr)         Breathing Rate (m^3 * sec^-1)
  0.0000E+00                 3.5000E-04
  7.2000E+02                 0.0000E+00

Location Occupancy Factor Data
 Time (hr)         Occupancy Factor
  0.0000E+00            1.0000E+00
  2.4000E+01            6.0000E-01
  9.6000E+01            4.0000E-01
  7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
Time            Time step
 0.0000E+00       1.0000E-01
 1.0000E+00       1.0000E-02
 2.0000E+00       5.0000E-01
 8.0000E+00       1.0000E+00
 2.4000E+01       2.0000E+00
 9.6000E+01       5.0000E+00
 7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:49:11
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.3660E+22  0.0000E+00
Elemental I (atoms)    6.2043E+20  0.0000E+00
Organic I (atoms)      1.9188E+19  0.0000E+00
Aerosols (kg)          6.5728E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3741E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7573E-04
Total I (Ci)                                   2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0833E+21
Elemental I (atoms)    0.0000E+00  1.3811E+19
Organic I (atoms)      0.0000E+00  4.2713E+17
Aerosols (kg)          0.0000E+00  1.4620E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5284E+19
Elemental I (atoms)    0.0000E+00  3.0020E+17
Organic I (atoms)      0.0000E+00  9.2845E+15
Aerosols (kg)          0.0000E+00  3.1779E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1131E-04	2.2376E-02	1.1130E-03
Accumulated dose (rem)	2.1131E-04	2.2376E-02	1.1130E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2141E-05	2.3445E-03	1.1662E-04
Accumulated dose (rem)	2.2141E-05	2.3445E-03	1.1662E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.6241E-06	2.0833E-02	8.4743E-04
Accumulated dose (rem)	7.6241E-06	2.0833E-02	8.4743E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.0720E+04	5.2812E-02	3.7416E+23	3.1771E+17
Kr-85m	3.0067E+05	3.6536E-05	2.5885E+20	4.6567E+18
Kr-87	5.6483E+05	1.9941E-05	1.3803E+20	8.9726E+18
Kr-88	8.2480E+05	6.5777E-05	4.5014E+20	1.2848E+19
Rb-86	2.3285E+03	2.8617E-05	2.0039E+20	3.5708E+16
I-131	1.2153E+06	9.8028E-03	4.5064E+22	1.8639E+19
I-132	1.7110E+06	1.6576E-04	7.5625E+20	2.6631E+19
I-133	2.4967E+06	2.2040E-03	9.9794E+21	3.8365E+19
I-134	2.4392E+06	9.1435E-05	4.1092E+20	3.9377E+19
I-135	2.3482E+06	6.6865E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8170E+22	3.6866E+19

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Xe-135                 8.3040E+05  3.2517E-04  1.4505E+21  1.2568E+19
Cs-134                 3.0702E+05  2.3729E-01  1.0664E+24  4.7077E+18
Cs-136                 8.3757E+04  1.1428E-03  5.0604E+21  1.2845E+18
Cs-137                 2.4349E+05  2.7994E+00  1.2305E+25  3.7336E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.3463E+23  0.0000E+00
Elemental I (atoms)    2.8709E+21  0.0000E+00
Organic I (atoms)      8.8790E+19  0.0000E+00
Aerosols (kg)          3.0501E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.3621E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1087E-04
Total I (Ci)                                   1.0210E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3448E+19
Elemental I (atoms)    0.0000E+00  8.9005E+16
Organic I (atoms)      0.0000E+00  2.7527E+15
Aerosols (kg)          0.0000E+00  9.4375E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3448E+19
Elemental I (atoms)    0.0000E+00  8.9005E+16
Organic I (atoms)      0.0000E+00  2.7527E+15
Aerosols (kg)          0.0000E+00  9.4375E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7128E+18
Elemental I (atoms)    0.0000E+00  4.4428E+16
Organic I (atoms)      0.0000E+00  1.3740E+15
Aerosols (kg)          0.0000E+00  4.7108E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9547E+22
Elemental I (atoms)    0.0000E+00  3.2795E+20
Organic I (atoms)      0.0000E+00  1.0143E+19
Aerosols (kg)          0.0000E+00  3.4771E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1416E+21
Elemental I (atoms)    0.0000E+00  3.4021E+19
Organic I (atoms)      0.0000E+00  1.0522E+18
Aerosols (kg)          0.0000E+00  3.6082E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.8303E-02  4.6651E-08  3.3051E+17  6.7720E+08
Kr-85m                 2.6608E-01  3.2332E-11  2.2907E+14  9.8449E+09
Kr-87                  5.0217E-01  1.7729E-11  1.2272E+14  1.8580E+10
Kr-88                  7.3067E-01  5.8271E-11  3.9877E+14  2.7035E+10
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Rb-86	2.3459E-04	2.8831E-12	2.0189E+13	8.6798E+06
I-131	1.6584E-01	1.3377E-09	6.1495E+15	6.1361E+09
I-132	2.3216E-01	2.2491E-11	1.0261E+14	8.5899E+09
I-133	3.4082E-01	3.0087E-10	1.3623E+15	1.2611E+10
I-134	3.3607E-01	1.2598E-11	5.6616E+13	1.2435E+10
I-135	3.2083E-01	9.1357E-11	4.0753E+14	1.1871E+10
Xe-133	2.1235E+00	1.1345E-08	5.1368E+16	7.8570E+10
Xe-135	7.2478E-01	2.8381E-10	1.2660E+15	2.6817E+10
Cs-134	3.0930E-02	2.3906E-08	1.0744E+17	1.1444E+09
Cs-136	8.4383E-03	1.1513E-10	5.0982E+14	3.1222E+08
Cs-137	2.4531E-02	2.8202E-07	1.2397E+18	9.0764E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	3.8390E+17	6.3970E+14
Elemental I (atoms)	2.3340E+15	3.8893E+12
Organic I (atoms)	7.8443E+13	1.3071E+11
Aerosols (kg)	3.0728E-07	5.1204E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3358E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.9774E-01
Total I (Ci)	1.3957E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4607E+17
Elemental I (atoms)	1.5662E+14	2.1332E+15
Organic I (atoms)	0.0000E+00	7.0818E+13
Aerosols (kg)	2.1328E-06	2.9581E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3933E+16
Elemental I (atoms)	3.2208E+13	1.8294E+14
Organic I (atoms)	0.0000E+00	6.9430E+12
Aerosols (kg)	4.4415E-08	1.0951E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1197E+15
Elemental I (atoms)	3.9213E+12	2.2273E+13
Organic I (atoms)	0.0000E+00	8.4293E+11
Aerosols (kg)	2.8288E-09	3.4856E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1822E+14
Elemental I (atoms)	0.0000E+00	3.1553E+12
Organic I (atoms)	0.0000E+00	1.0604E+11
Aerosols (kg)	0.0000E+00	4.1476E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4222E+14
Elemental I (atoms)	0.0000E+00	5.7369E+12
Organic I (atoms)	0.0000E+00	1.9281E+11

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Aerosols (kg)          0.0000E+00  7.5412E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.2604E+14  0.0000E+00
Elemental I (atoms)    1.3786E+12  0.0000E+00
Organic I (atoms)      4.6250E+10  0.0000E+00
Aerosols (kg)          1.8269E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.4271E-03  3.3688E-01  1.7871E-02
Accumulated dose (rem)  4.6384E-03  3.5926E-01  1.8984E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6387E-04  3.5299E-02  1.8725E-03
Accumulated dose (rem)  4.8601E-04  3.7643E-02  1.9891E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.7497E-04  8.2166E-01  3.3243E-02
Accumulated dose (rem)  3.8260E-04  8.4249E-01  3.4091E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.4484E+04  1.3887E-01  9.8389E+23  2.2188E+18
Kr-85m                 7.5090E+05  9.1245E-05  6.4646E+20  3.1458E+19
Kr-87                  1.2385E+06  4.3724E-05  3.0266E+20  5.5825E+19
Kr-88                  1.9994E+06  1.5945E-04  1.0912E+21  8.5160E+19
Rb-86                  1.0072E+03  1.2379E-05  8.6684E+19  8.5796E+16
I-131                  5.2943E+05  4.2705E-03  1.9632E+22  4.4904E+19
I-132                  7.3931E+05  7.1623E-05  3.2676E+20  6.3829E+19
I-133                  1.0767E+06  9.5050E-04  4.3038E+21  9.2070E+19
I-134                  8.1727E+05  3.0636E-05  1.3768E+20  8.6214E+19
I-135                  9.8885E+05  2.8157E-04  1.2561E+21  8.6211E+19
Xe-133                 6.3169E+06  3.3748E-02  1.5281E+23  2.5738E+20
Xe-135                 2.1864E+06  8.5616E-04  3.8192E+21  8.8792E+19
Cs-134                 1.3287E+05  1.0270E-01  4.6154E+23  1.1313E+19
Cs-136                 3.6223E+04  4.9423E-04  2.1885E+21  3.0860E+18
Cs-137                 1.0538E+05  1.2115E+00  5.3256E+24  8.9727E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1426E+24  0.0000E+00
Elemental I (atoms)    1.2349E+21  7.5496E+21
Organic I (atoms)      2.3192E+20  0.0000E+00
Aerosols (kg)          1.3200E+00  8.0349E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7601E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.4947E-04
Total I (Ci)                                   4.1516E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1374E+20
Elemental I (atoms)    0.0000E+00  2.7814E+17
Organic I (atoms)      0.0000E+00  2.3187E+16
Aerosols (kg)          0.0000E+00  2.9567E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.6775E+19
Elemental I (atoms)	0.0000E+00	1.3884E+17
Organic I (atoms)	0.0000E+00	1.1574E+16
Aerosols (kg)	0.0000E+00	1.4759E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0352E+23
Elemental I (atoms)	0.0000E+00	9.9548E+20
Organic I (atoms)	0.0000E+00	8.2265E+19
Aerosols (kg)	0.0000E+00	1.0582E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0978E+23
Elemental I (atoms)	0.0000E+00	3.7778E+20
Organic I (atoms)	0.0000E+00	2.2359E+19
Aerosols (kg)	0.0000E+00	4.0232E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	5.7183E-01	1.4575E-06	1.0326E+19	2.1158E+10
Kr-85m	7.9777E+00	9.6941E-10	6.8681E+15	2.9518E+11
Kr-87	1.3583E+01	4.7953E-10	3.3193E+15	5.0257E+11
Kr-88	2.1394E+01	1.7062E-09	1.1676E+16	7.9159E+11
Rb-86	3.6209E-03	4.4501E-11	3.1161E+14	1.3397E+08
I-131	2.6708E+00	2.1543E-08	9.9036E+16	9.8821E+10
I-132	3.5496E+00	3.4388E-10	1.5689E+15	1.3133E+11
I-133	5.4502E+00	4.8112E-09	2.1785E+16	2.0166E+11
I-134	4.5069E+00	1.6894E-10	7.5926E+14	1.6676E+11
I-135	5.0445E+00	1.4364E-09	6.4077E+15	1.8665E+11
Xe-133	6.6305E+01	3.5423E-07	1.6039E+18	2.4533E+12
Xe-135	2.2842E+01	8.9447E-09	3.9901E+16	8.4517E+11
Cs-134	4.7758E-01	3.6912E-07	1.6589E+18	1.7670E+10
Cs-136	1.3023E-01	1.7768E-09	7.8679E+15	4.8183E+09
Cs-137	3.7877E-01	4.3546E-06	1.9142E+19	1.4015E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.1992E+19	6.6622E+15
Elemental I (atoms)	4.0066E+16	2.2259E+13
Organic I (atoms)	2.4370E+15	1.3539E+12
Aerosols (kg)	4.7446E-06	2.6359E-09

Dose Effective (Ci) I-131 (Thyroid)	3.7497E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.7522E+00
Total I (Ci)	2.1222E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.1283E+18
Elemental I (atoms)	2.2140E+15	3.0154E+16
Organic I (atoms)	0.0000E+00	1.8590E+15
Aerosols (kg)	3.0280E-05	4.1996E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5305E+18
Elemental I (atoms)	1.5558E+15	8.8372E+15
Organic I (atoms)	0.0000E+00	5.1509E+14
Aerosols (kg)	2.1564E-06	5.3170E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3481E+17
Elemental I (atoms)	2.1025E+14	1.1942E+15
Organic I (atoms)	0.0000E+00	6.8147E+13
Aerosols (kg)	1.5245E-07	1.8785E-08

Filtered Intake to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6189E+16
Elemental I (atoms)	0.0000E+00	5.4193E+13
Organic I (atoms)	0.0000E+00	3.2964E+12
Aerosols (kg)	0.0000E+00	6.4041E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9434E+16
Elemental I (atoms)	0.0000E+00	9.8532E+13
Organic I (atoms)	0.0000E+00	5.9935E+12
Aerosols (kg)	0.0000E+00	1.1644E-08

Control Room Exhaust to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	1.7355E+16	0.0000E+00
Elemental I (atoms)	6.7625E+13	0.0000E+00
Organic I (atoms)	3.5326E+12	0.0000E+00
Aerosols (kg)	8.1989E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7865E-03	2.9635E-01	1.7885E-02
Accumulated dose (rem)	1.0425E-02	6.5561E-01	3.6869E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0632E-04	3.1052E-02	1.8740E-03
Accumulated dose (rem)	1.0923E-03	6.8696E-02	3.8632E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9579E-04	9.8573E-01	4.0178E-02
Accumulated dose (rem)	9.7838E-04	1.8282E+00	7.4269E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8004E+05	4.5889E-01	3.2512E+24	5.5807E+18
Kr-85m	2.4181E+06	2.9383E-04	2.0818E+21	7.7155E+19
Kr-87	3.7371E+06	1.3193E-04	9.1325E+20	1.2863E+20
Kr-88	6.3435E+06	5.0589E-04	3.4620E+21	2.0587E+20
Rb-86	1.3045E+03	1.6032E-05	1.1226E+20	1.1418E+17
Sr-89	6.0231E+04	2.0732E-03	1.4028E+22	1.2221E+18
Sr-90	9.4775E+03	6.9479E-02	4.6490E+23	1.9228E+17
Sr-91	7.2807E+04	2.0085E-05	1.3292E+20	1.4858E+18
Sr-92	6.8221E+04	5.4275E-06	3.5528E+19	1.4129E+18
Y-90	1.0761E+02	1.9780E-07	1.3235E+18	2.0108E+15
Y-91	7.7953E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0955E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9180E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1632E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4906E-07	3.4088E+18	2.1366E+16
Nb-95	1.1095E+03	2.8375E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0112E-05	1.8317E+20	2.9326E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4923E+19	2.6046E+17
Ru-103	1.2515E+04	3.8776E-04	2.2672E+21	2.5392E+17
Ru-105	7.9156E+03	1.1776E-06	6.7537E+18	1.6262E+17
Ru-106	5.4608E+03	1.6322E-03	9.2732E+21	1.1079E+17
Rh-105	8.2268E+03	9.7467E-06	5.5901E+19	1.6678E+17
Sb-127	1.3743E+04	5.1460E-05	2.4402E+20	2.7898E+17
Sb-129	4.5176E+04	8.0335E-06	3.7503E+19	9.2845E+17
Te-127	1.3712E+04	5.1955E-06	2.4636E+19	2.7733E+17
Te-127m	2.3501E+03	2.4915E-04	1.1814E+21	4.7680E+16
Te-129	4.6519E+04	2.2213E-06	1.0370E+19	9.2624E+17
Te-129m	9.6706E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0919E+04	3.8774E-05	1.7825E+20	6.2846E+17
Te-132	2.2022E+05	7.2537E-04	3.3093E+21	4.4711E+18
I-131	8.4096E+05	6.7833E-03	3.1183E+22	6.2966E+19
I-132	1.1889E+06	1.1518E-04	5.2549E+20	8.9524E+19
I-133	1.7016E+06	1.5021E-03	6.8016E+21	1.2871E+20
I-134	1.1384E+06	4.2674E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3972E-04	1.9615E+21	1.1966E+20
Xe-133	2.0875E+07	1.1152E-01	5.0497E+23	6.4727E+20
Xe-135	7.3604E+06	2.8822E-03	1.2857E+22	2.2618E+20
Cs-134	1.7213E+05	1.3304E-01	5.9789E+23	1.5058E+19
Cs-136	4.6907E+04	6.4001E-04	2.8340E+21	4.1065E+18
Cs-137	1.3652E+05	1.5695E+00	6.8990E+24	1.1942E+19
Ba-139	8.0450E+04	4.9184E-06	2.1309E+19	1.6999E+18
Ba-140	1.1310E+05	1.5448E-03	6.6452E+21	2.2950E+18
La-140	1.3943E+03	2.5085E-06	1.0790E+19	2.5016E+16
La-141	9.1796E+02	1.6232E-07	6.9326E+17	1.8890E+16
La-142	7.4795E+02	5.2249E-08	2.2159E+17	1.5736E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	5.2756E+16
Ce-143	2.3934E+03	3.6040E-06	1.5178E+19	4.8640E+16
Ce-144	2.2344E+03	7.0054E-04	2.9297E+21	4.5332E+16
Pr-143	9.4036E+02	1.3965E-05	5.8809E+19	1.9072E+16
Nd-147	4.1766E+02	5.1627E-06	2.1150E+19	8.4754E+15
Np-239	3.0378E+04	1.3095E-04	3.2995E+20	6.1694E+17
Pu-238	8.0132E+00	4.6807E-04	1.1844E+21	1.6258E+14
Pu-239	7.5711E-01	1.2181E-02	3.0692E+22	1.5360E+13
Pu-240	1.3870E+00	6.0867E-03	1.5273E+22	2.8139E+13
Pu-241	3.0628E+02	2.9732E-03	7.4295E+21	6.2139E+15
Am-241	2.0112E-01	5.8599E-05	1.4643E+20	4.0804E+12
Cm-242	5.1157E+01	1.5435E-05	3.8410E+19	1.0379E+15

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Cm-244                 2.9742E+00  3.6763E-05  9.0735E+19  6.0343E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    3.7755E+24  0.0000E+00
Elemental I (atoms)    1.9580E+21  1.1945E+22
Organic I (atoms)      3.5375E+20  0.0000E+00
Aerosols (kg)          1.8111E+00  1.2217E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.3758E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.5260E-04
Total I (Ci)                                   6.4142E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7017E+20
Elemental I (atoms)    0.0000E+00  3.8827E+17
Organic I (atoms)      0.0000E+00  4.1627E+16
Aerosols (kg)          0.0000E+00  4.0045E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7017E+20
Elemental I (atoms)    0.0000E+00  3.8827E+17
Organic I (atoms)      0.0000E+00  4.1627E+16
Aerosols (kg)          0.0000E+00  4.0045E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3486E+20
Elemental I (atoms)    0.0000E+00  1.9381E+17
Organic I (atoms)      0.0000E+00  2.0778E+16
Aerosols (kg)          0.0000E+00  1.9989E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.5562E+23
Elemental I (atoms)    0.0000E+00  1.3842E+21
Organic I (atoms)      0.0000E+00  1.4735E+20
Aerosols (kg)          0.0000E+00  1.4280E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6171E+23
Elemental I (atoms)    0.0000E+00  6.0694E+20
Organic I (atoms)      0.0000E+00  4.8326E+19
Aerosols (kg)          0.0000E+00  6.4249E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.4874E+00  3.7911E-06  2.6860E+19  5.5034E+10
Kr-85m                 2.0338E+01  2.4713E-09  1.7509E+16  7.5249E+11
Kr-87                  3.2934E+01  1.1627E-09  8.0481E+15  1.2185E+12
Kr-88                  5.3914E+01  4.2996E-09  2.9424E+16  1.9948E+12
Rb-86                  6.4411E-03  7.9160E-11  5.5432E+14  2.3832E+08
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Sr-89	1.0741E-02	3.6973E-10	2.5017E+15	3.9743E+08
Sr-90	1.6902E-03	1.2391E-08	8.2908E+16	6.2536E+07
Sr-91	1.3000E-02	3.5864E-12	2.3734E+13	4.8102E+08
Sr-92	1.2221E-02	9.7226E-13	6.3642E+12	4.5217E+08
Y-90	1.9996E-05	3.6753E-14	2.4592E+11	7.3985E+05
Y-91	1.3914E-04	5.6735E-12	3.7546E+13	5.1481E+06
Y-92	4.8149E-04	5.0039E-14	3.2755E+11	1.7815E+07
Y-93	1.0566E-04	3.1671E-14	2.0508E+11	3.9096E+06
Zr-95	1.9781E-04	9.2079E-12	5.8370E+13	7.3190E+06
Zr-97	1.8732E-04	9.7987E-14	6.0834E+11	6.9308E+06
Nb-95	1.9787E-04	5.0602E-12	3.2077E+13	7.3211E+06
Mo-99	2.5760E-03	5.3709E-12	3.2671E+13	9.5312E+07
Tc-99m	2.3005E-03	4.3750E-13	2.6613E+12	8.5117E+07
Ru-103	2.2318E-03	6.9152E-11	4.0432E+14	8.2577E+07
Ru-105	1.4155E-03	2.1057E-13	1.2077E+12	5.2372E+07
Ru-106	9.7385E-04	2.9109E-10	1.6537E+15	3.6032E+07
Rh-105	1.4671E-03	1.7382E-12	9.9692E+12	5.4284E+07
Sb-127	2.4511E-03	9.1783E-12	4.3522E+13	9.0690E+07
Sb-129	8.0790E-03	1.4367E-12	6.7069E+12	2.9892E+08
Te-127	2.4453E-03	9.2655E-13	4.3935E+12	9.0475E+07
Te-127m	4.1910E-04	4.4432E-11	2.1069E+14	1.5507E+07
Te-129	8.3044E-03	3.9654E-13	1.8512E+12	3.0726E+08
Te-129m	1.7246E-03	5.7247E-11	2.6725E+14	6.3810E+07
Te-131m	5.5161E-03	6.9176E-12	3.1800E+13	2.0410E+08
Te-132	3.9278E-02	1.2938E-10	5.9025E+14	1.4533E+09
I-131	4.8757E+00	3.9328E-08	1.8079E+17	1.8040E+11
I-132	6.3627E+00	6.1641E-10	2.8122E+15	2.3542E+11
I-133	9.9175E+00	8.7548E-09	3.9641E+16	3.6695E+11
I-134	7.5820E+00	2.8422E-10	1.2773E+15	2.8053E+11
I-135	9.1093E+00	2.5939E-09	1.1571E+16	3.3705E+11
Xe-133	1.7240E+02	9.2105E-07	4.1704E+18	6.3789E+12
Xe-135	5.9483E+01	2.3293E-08	1.0391E+17	2.2009E+12
Cs-134	8.4968E-01	6.5672E-07	2.9514E+18	3.1438E+10
Cs-136	2.3164E-01	3.1605E-09	1.3995E+16	8.5706E+09
Cs-137	6.7389E-01	7.7475E-06	3.4056E+19	2.4934E+10
Ba-139	1.4475E-02	8.8492E-13	3.8339E+12	5.3556E+08
Ba-140	2.0170E-02	2.7551E-10	1.1851E+15	7.4628E+08
La-140	2.6391E-04	4.7481E-13	2.0424E+12	9.7647E+06
La-141	1.6421E-04	2.9036E-14	1.2401E+11	6.0757E+06
La-142	1.3444E-04	9.3918E-15	3.9830E+10	4.9745E+06
Ce-141	4.6371E-04	1.6274E-11	6.9508E+13	1.7157E+07
Ce-143	4.2698E-04	6.4296E-13	2.7077E+12	1.5798E+07
Ce-144	3.9846E-04	1.2493E-10	5.2246E+14	1.4743E+07
Pr-143	1.6772E-04	2.4907E-12	1.0489E+13	6.2057E+06
Nd-147	7.4486E-05	9.2073E-13	3.7719E+12	2.7560E+06
Np-239	5.4187E-03	2.3357E-11	5.8854E+13	2.0049E+08
Pu-238	1.4290E-06	8.3473E-11	2.1121E+14	5.2874E+04
Pu-239	1.3502E-07	2.1722E-09	5.4734E+15	4.9957E+03
Pu-240	2.4734E-07	1.0855E-09	2.7237E+15	9.1517E+03
Pu-241	5.4620E-05	5.3022E-10	1.3249E+15	2.0209E+06
Am-241	3.5867E-08	1.0450E-11	2.6113E+13	1.3271E+03
Cm-242	9.1230E-06	2.7526E-12	6.8499E+12	3.3755E+05
Cm-244	5.3041E-07	6.5561E-12	1.6181E+13	1.9625E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.1189E+19	1.2995E+16
Elemental I (atoms)	7.4352E+16	3.0979E+13
Organic I (atoms)	5.9136E+15	2.4639E+12
Aerosols (kg)	8.4592E-06	3.5245E-09

Dose Effective (Ci) I-131 (Thyroid)	6.8356E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.6432E+00
Total I (Ci)	3.7847E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2713E+19
Elemental I (atoms)    3.8370E+15  5.2259E+16
Organic I (atoms)      0.0000E+00  4.2481E+15
Aerosols (kg)          5.2247E-05  7.2463E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4598E+18
Elemental I (atoms)    3.4289E+15  1.9476E+16
Organic I (atoms)      0.0000E+00  1.4741E+15
Aerosols (kg)          4.7551E-06  1.1725E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0237E+18
Elemental I (atoms)    4.8813E+14  2.7726E+15
Organic I (atoms)      0.0000E+00  2.0289E+14
Aerosols (kg)          3.5428E-07  4.3653E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.2103E+16
Elemental I (atoms)    0.0000E+00  1.0055E+14
Organic I (atoms)      0.0000E+00  7.9974E+12
Aerosols (kg)          0.0000E+00  1.1418E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6551E+16
Elemental I (atoms)    0.0000E+00  1.8283E+14
Organic I (atoms)      0.0000E+00  1.4541E+13
Aerosols (kg)          0.0000E+00  2.0760E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    5.1712E+16  0.0000E+00
Elemental I (atoms)    1.5019E+14  0.0000E+00
Organic I (atoms)      1.0229E+13  0.0000E+00
Aerosols (kg)          1.7538E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.7640E-01  6.4887E+00  7.8290E-01
Accumulated dose (rem)  4.8682E-01  7.1444E+00  8.1977E-01

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.9917E-02  6.7990E-01  8.2033E-02
Accumulated dose (rem)  5.1010E-02  7.4859E-01  8.5896E-02

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.0789E-02	7.1486E+00	3.5130E-01
Accumulated dose (rem)	4.1767E-02	8.9769E+00	4.2557E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.2660E+05	2.3618E+00	1.6733E+25	1.0811E+20
Kr-85m	1.0125E+07	1.2303E-03	8.7169E+21	1.2954E+21
Kr-87	9.2989E+06	3.2829E-04	2.2724E+21	1.5303E+21
Kr-88	2.3579E+07	1.8804E-03	1.2868E+22	3.1875E+21
Rb-86	1.3607E+03	1.6723E-05	1.1710E+20	3.5390E+17
Sr-89	6.8959E+04	2.3736E-03	1.6061E+22	1.3203E+19
Sr-90	1.0859E+04	7.9607E-02	5.3267E+23	2.0782E+18
Sr-91	7.5687E+04	2.0879E-05	1.3817E+20	1.5284E+19
Sr-92	5.5579E+04	4.4218E-06	2.8944E+19	1.2893E+19
Y-90	1.2405E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9277E+02	3.6404E-05	2.4091E+20	1.7079E+17
Y-92	1.9925E+03	2.0707E-07	1.3555E+18	3.3236E+17
Y-93	6.1878E+02	1.8547E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9123E-05	3.7479E+20	2.4316E+17
Zr-97	1.1386E+03	5.9563E-07	3.6979E+18	2.2456E+17
Nb-95	1.2713E+03	3.2511E-05	2.0609E+20	2.4329E+17
Mo-99	1.6317E+04	3.4022E-05	2.0695E+20	3.1468E+18
Tc-99m	1.4738E+04	2.8028E-06	1.7049E+19	2.8197E+18
Ru-103	1.4325E+04	4.4386E-04	2.5951E+21	2.7429E+18
Ru-105	7.3652E+03	1.0957E-06	6.2841E+18	1.5829E+18
Ru-106	6.2562E+03	1.8700E-03	1.0624E+22	1.1974E+18
Rh-105	9.3941E+03	1.1130E-05	6.3833E+19	1.8012E+18
Sb-127	1.5589E+04	5.8375E-05	2.7681E+20	2.9998E+18
Sb-129	4.1792E+04	7.4319E-06	3.4694E+19	9.0115E+18
Te-127	1.5691E+04	5.9455E-06	2.8193E+19	3.0012E+18
Te-127m	2.6927E+03	2.8547E-04	1.3537E+21	5.1532E+17
Te-129	4.7599E+04	2.2729E-06	1.0611E+19	9.6471E+18
Te-129m	1.1079E+04	3.6778E-04	1.7169E+21	2.1205E+18
Te-131m	3.4351E+04	4.3079E-05	1.9804E+20	6.6861E+18
Te-132	2.4936E+05	8.2135E-04	3.7472E+21	4.8031E+19
I-131	9.0723E+05	7.3179E-03	3.3641E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6724E+20	3.1411E+20
I-133	1.7631E+06	1.5564E-03	7.0472E+21	4.4241E+20
I-134	4.2970E+05	1.6108E-05	7.2391E+19	2.4434E+20
I-135	1.4544E+06	4.1414E-04	1.8474E+21	3.9116E+20
Xe-133	1.0709E+08	5.7214E-01	2.5906E+24	1.2514E+22
Xe-135	3.8692E+07	1.5151E-02	6.7587E+22	4.4890E+21
Cs-134	1.7991E+05	1.3905E-01	6.2491E+23	4.6721E+19
Cs-136	4.8886E+04	6.6701E-04	2.9535E+21	1.2723E+19
Cs-137	1.4269E+05	1.6405E+00	7.2111E+24	3.7055E+19
Ba-139	4.7144E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5909E+21	2.4765E+19
La-140	1.6097E+03	2.8961E-06	1.2458E+19	2.9264E+17
La-141	8.3137E+02	1.4701E-07	6.2787E+17	1.8145E+17
La-142	4.7058E+02	3.2873E-08	1.3941E+17	1.2730E+17
Ce-141	2.9786E+03	1.0454E-04	4.4648E+20	5.7012E+17
Ce-143	2.6665E+03	4.0154E-06	1.6910E+19	5.1821E+17
Ce-144	2.5597E+03	8.0255E-04	3.3563E+21	4.8991E+17
Pr-143	1.0775E+03	1.6001E-05	6.7384E+19	2.0617E+17
Nd-147	4.7686E+02	5.8946E-06	2.4148E+19	9.1436E+16
Np-239	3.4242E+04	1.4760E-04	3.7192E+20	6.6122E+18
Pu-238	9.1815E+00	5.3631E-04	1.3570E+21	1.7571E+15
Pu-239	8.6763E-01	1.3959E-02	3.5172E+22	1.6603E+14
Pu-240	1.5891E+00	6.9740E-03	1.7499E+22	3.0413E+14
Pu-241	3.5092E+02	3.4066E-03	8.5125E+21	6.7159E+16
Am-241	2.3048E-01	6.7152E-05	1.6780E+20	4.4104E+13
Cm-242	5.8600E+01	1.7681E-05	4.3999E+19	1.1216E+16
Cm-244	3.4078E+00	4.2122E-05	1.0396E+20	6.5218E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9415E+25	0.0000E+00	
Elemental I (atoms)	2.0418E+21	5.2662E+22	
Organic I (atoms)	1.1387E+21	0.0000E+00	
Aerosols (kg)	1.9030E+00	4.9870E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6500E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7733E-04
Total I (Ci)			5.8378E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1130E+21
Elemental I (atoms)	0.0000E+00	7.0298E+17
Organic I (atoms)	0.0000E+00	2.1054E+17
Aerosols (kg)	0.0000E+00	6.7074E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2013E+25
Elemental I (atoms)	0.0000E+00	4.9844E+21
Organic I (atoms)	0.0000E+00	1.4891E+21
Aerosols (kg)	0.0000E+00	4.7572E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2731E+25
Elemental I (atoms)	0.0000E+00	3.6478E+21
Organic I (atoms)	0.0000E+00	9.1397E+20
Aerosols (kg)	0.0000E+00	3.5375E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.1958E+02	3.0478E-04	2.1593E+21	4.4243E+12
Kr-85m	1.3941E+03	1.6940E-07	1.2001E+18	5.1580E+13
Kr-87	1.5255E+03	5.3857E-08	3.7280E+17	5.6444E+13
Kr-88	3.3740E+03	2.6908E-07	1.8414E+18	1.2484E+14
Rb-86	5.6262E-02	6.9146E-10	4.8419E+15	2.0817E+09
Sr-89	1.5987E+00	5.5028E-08	3.7235E+17	5.9152E+10

Sr-90	2.5168E-01	1.8451E-06	1.2346E+19	9.3121E+09
Sr-91	1.8169E+00	5.0122E-10	3.3170E+15	6.7226E+10
Sr-92	1.4608E+00	1.1622E-10	7.6076E+14	5.4051E+10
Y-90	4.1129E-03	7.5596E-12	5.0583E+13	1.5218E+08
Y-91	2.0872E-02	8.5108E-10	5.6323E+15	7.7226E+08
Y-92	1.8083E-01	1.8793E-11	1.2301E+14	6.6907E+09
Y-93	1.4823E-02	4.4429E-12	2.8770E+13	5.4845E+08
Zr-95	2.9444E-02	1.3706E-09	8.6883E+15	1.0894E+09
Zr-97	2.6915E-02	1.4079E-11	8.7409E+13	9.9584E+08
Nb-95	2.9464E-02	7.5350E-10	4.7765E+15	1.0902E+09
Mo-99	3.8009E-01	7.9249E-10	4.8207E+15	1.4063E+10
Tc-99m	3.4199E-01	6.5039E-11	3.9563E+14	1.2654E+10
Ru-103	3.3213E-01	1.0291E-08	6.0168E+16	1.2289E+10
Ru-105	1.8416E-01	2.7397E-11	1.5713E+14	6.8140E+09
Ru-106	1.4501E-01	4.3342E-08	2.4624E+17	5.3652E+09
Rh-105	2.1808E-01	2.5837E-10	1.4818E+15	8.0688E+09
Sb-127	3.6261E-01	1.3578E-09	6.4386E+15	1.3417E+10
Sb-129	1.0472E+00	1.8623E-10	8.6938E+14	3.8748E+10
Te-127	3.6386E-01	1.3787E-10	6.5376E+14	1.3463E+10
Te-127m	6.2409E-02	6.6163E-09	3.1374E+16	2.3091E+09
Te-129	1.1550E+00	5.5150E-11	2.5746E+14	4.2734E+10
Te-129m	2.5680E-01	8.5244E-09	3.9795E+16	9.5016E+09
Te-131m	8.0502E-01	1.0095E-09	4.6409E+15	2.9786E+10
Te-132	5.8039E+00	1.9117E-08	8.7217E+16	2.1474E+11
I-131	5.2930E+01	4.2694E-07	1.9627E+18	1.9584E+12
I-132	6.3827E+01	6.1835E-09	2.8210E+16	2.3616E+12
I-133	1.0486E+02	9.2566E-08	4.1913E+17	3.8798E+12
I-134	4.3611E+01	1.6348E-09	7.3470E+15	1.6136E+12
I-135	9.0519E+01	2.5775E-08	1.1498E+17	3.3492E+12
Xe-133	1.3817E+04	7.3816E-05	3.3423E+20	5.1123E+14
Xe-135	4.7915E+03	1.8763E-06	8.3698E+18	1.7728E+14
Cs-134	7.4313E+00	5.7437E-06	2.5813E+19	2.7496E+11
Cs-136	2.0222E+00	2.7591E-08	1.2218E+17	7.4821E+10
Cs-137	5.8940E+00	6.7761E-05	2.9786E+20	2.1808E+11
Ba-139	1.4093E+00	8.6159E-11	3.7328E+14	5.2144E+10
Ba-140	2.9975E+00	4.0945E-08	1.7612E+17	1.1091E+11
La-140	6.0709E-02	1.0922E-10	4.6982E+14	2.2462E+09
La-141	2.0998E-02	3.7129E-12	1.5858E+13	7.7693E+08
La-142	1.3674E-02	9.5521E-13	4.0510E+12	5.0593E+08
Ce-141	6.9029E-02	2.4226E-09	1.0347E+16	2.5541E+09
Ce-143	6.2427E-02	9.4004E-11	3.9588E+14	2.3098E+09
Ce-144	5.9330E-02	1.8602E-08	7.7793E+16	2.1952E+09
Pr-143	2.5010E-02	3.7140E-10	1.5641E+15	9.2536E+08
Nd-147	1.1066E-02	1.3679E-10	5.6039E+14	4.0945E+08
Np-239	7.9830E-01	3.4411E-09	8.6706E+15	2.9537E+10
Pu-238	2.1280E-04	1.2430E-08	3.1452E+16	7.8735E+06
Pu-239	2.0108E-05	3.2350E-07	8.1513E+17	7.4399E+05
Pu-240	3.6832E-05	1.6164E-07	4.0558E+17	1.3628E+06
Pu-241	8.1334E-03	7.8955E-08	1.9729E+17	3.0093E+08
Am-241	5.3419E-06	1.5564E-09	3.8892E+15	1.9765E+05
Cm-242	1.3583E-03	4.0983E-10	1.0199E+15	5.0257E+07
Cm-244	7.8983E-05	9.7627E-10	2.4095E+15	2.9224E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.5053E+21	3.4796E+17
Elemental I (atoms)	8.1961E+17	1.1384E+14
Organic I (atoms)	1.9430E+17	2.6986E+13
Aerosols (kg)	7.6507E-05	1.0626E-08

Dose Effective (Ci) I-131 (Thyroid)	7.3428E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.1533E+01
Total I (Ci)	3.5575E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4430E+21
Elemental I (atoms)    3.3333E+16  4.5400E+17
Organic I (atoms)      0.0000E+00  1.0853E+17
Aerosols (kg)          4.2075E-04  5.8354E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0897E+20
Elemental I (atoms)    5.4104E+16  3.0731E+17
Organic I (atoms)      0.0000E+00  7.3024E+16
Aerosols (kg)          7.0097E-05  1.7284E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5337E+20
Elemental I (atoms)    1.0347E+16  5.8771E+16
Organic I (atoms)      0.0000E+00  1.2822E+16
Aerosols (kg)          7.0796E-06  8.7233E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7745E+18
Elemental I (atoms)    8.1515E+14  1.0879E+14
Organic I (atoms)      2.0603E+14  1.0078E+13
Aerosols (kg)          7.4398E-08  1.2170E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7616E+17
Elemental I (atoms)    0.0000E+00  3.6351E+14
Organic I (atoms)      0.0000E+00  6.0210E+13
Aerosols (kg)          0.0000E+00  3.7251E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.5174E+18  0.0000E+00
Elemental I (atoms)    3.6381E+14  0.0000E+00
Organic I (atoms)      4.2562E+13  0.0000E+00
Aerosols (kg)          3.9623E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.5165E-02  8.8242E-01  1.3773E-01
Accumulated dose (rem)  5.8199E-01  8.0268E+00  9.5750E-01

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1327E-03  3.8320E-02  5.9811E-03
Accumulated dose (rem)  5.5142E-02  7.8691E-01  9.1878E-02

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
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Delta dose (rem)	1.5448E-02	1.0843E+00	6.6380E-02
Accumulated dose (rem)	5.7215E-02	1.0061E+01	4.9195E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.7632E+05	2.2336E+00	1.5825E+25	1.3174E+20
Kr-85m	9.2840E+06	1.1281E-03	7.9927E+21	1.5496E+21
Kr-87	7.8860E+06	2.7841E-04	1.9271E+21	1.7550E+21
Kr-88	2.1237E+07	1.6936E-03	1.1590E+22	3.7744E+21
Rb-86	1.3979E+02	1.7180E-06	1.2030E+19	3.6040E+17
Sr-89	6.9257E+03	2.3839E-04	1.6130E+21	1.3528E+19
Sr-90	1.0907E+03	7.9960E-03	5.3503E+22	2.1294E+18
Sr-91	7.4922E+03	2.0668E-06	1.3678E+19	1.5639E+19
Sr-92	5.3042E+03	4.2199E-07	2.7623E+18	1.3150E+19
Y-90	1.7379E+01	3.1944E-08	2.1374E+17	2.3584E+16
Y-91	9.0335E+01	3.6836E-06	2.4377E+19	1.7502E+17
Y-92	6.4165E+02	6.6684E-08	4.3650E+17	3.4943E+17
Y-93	6.1305E+01	1.8375E-08	1.1899E+17	1.2745E+17
Zr-95	1.2757E+02	5.9380E-06	3.7642E+19	2.4915E+17
Zr-97	1.1343E+02	5.9338E-08	3.6839E+17	2.2992E+17
Nb-95	1.2769E+02	3.2655E-06	2.0700E+19	2.4929E+17
Mo-99	1.6355E+03	3.4101E-06	2.0743E+19	3.2237E+18
Tc-99m	1.4796E+03	2.8138E-07	1.7116E+18	2.8889E+18
Ru-103	1.4386E+03	4.4576E-05	2.6062E+20	2.8106E+18
Ru-105	7.1704E+02	1.0667E-07	6.1180E+17	1.6173E+18
Ru-106	6.2838E+02	1.8783E-04	1.0671E+21	1.2269E+18
Rh-105	9.4273E+02	1.1169E-06	6.4059E+18	1.8455E+18
Sb-127	1.5635E+03	5.8546E-06	2.7762E+19	3.0733E+18
Sb-129	4.0652E+03	7.2290E-07	3.3748E+18	9.2063E+18
Te-127	1.5757E+03	5.9706E-07	2.8312E+18	3.0750E+18
Te-127m	2.7047E+02	2.8674E-05	1.3597E+20	5.2803E+17
Te-129	4.6954E+03	2.2421E-07	1.0467E+18	9.8647E+18
Te-129m	1.1128E+03	3.6940E-05	1.7245E+20	2.1727E+18
Te-131m	3.4345E+03	4.3070E-06	1.9800E+19	6.8479E+18
Te-132	2.5002E+04	8.2353E-05	3.7571E+20	4.9207E+19
I-131	1.1305E+05	9.1188E-04	4.1920E+21	2.2600E+20
I-132	1.4515E+05	1.4062E-05	6.4155E+19	3.2060E+20
I-133	2.1841E+05	1.9281E-04	8.7302E+20	4.5176E+20
I-134	4.5750E+04	1.7150E-06	7.7074E+18	2.4648E+20
I-135	1.7762E+05	5.0576E-05	2.2561E+20	3.9883E+20
Xe-133	1.0116E+08	5.4043E-01	2.4470E+24	1.5243E+22
Xe-135	3.5909E+07	1.4061E-02	6.2726E+22	5.4653E+21
Cs-134	1.8488E+04	1.4290E-02	6.4219E+22	4.7581E+19
Cs-136	5.0216E+03	6.8516E-05	3.0339E+20	1.2956E+19
Cs-137	1.4664E+04	1.6859E-01	7.4106E+23	3.7738E+19
Ba-139	4.2822E+03	2.6180E-07	1.1342E+18	1.3533E+19
Ba-140	1.2971E+04	1.7717E-04	7.6211E+20	2.5375E+19
La-140	2.5448E+02	4.5784E-07	1.9694E+18	3.0181E+17
La-141	8.0611E+01	1.4254E-08	6.0879E+16	1.8532E+17
La-142	4.3201E+01	3.0179E-09	1.2799E+16	1.2944E+17
Ce-141	2.9911E+02	1.0498E-05	4.4836E+19	5.8418E+17
Ce-143	2.6671E+02	4.0163E-07	1.6914E+18	5.3077E+17
Ce-144	2.5710E+02	8.0609E-05	3.3711E+20	5.0199E+17
Pr-143	1.0837E+02	1.6093E-06	6.7773E+18	2.1126E+17
Nd-147	4.7873E+01	5.9176E-07	2.4243E+18	9.3687E+16
Np-239	3.4310E+03	1.4789E-05	3.7265E+19	6.7736E+18
Pu-238	9.2222E-01	5.3869E-05	1.3630E+20	1.8005E+15
Pu-239	8.7149E-02	1.4021E-03	3.5329E+21	1.7012E+14
Pu-240	1.5962E-01	7.0049E-04	1.7577E+21	3.1163E+14
Pu-241	3.5248E+01	3.4217E-04	8.5502E+20	6.8815E+16
Am-241	2.3152E-02	6.7456E-06	1.6856E+19	4.5192E+13
Cm-242	5.8858E+00	1.7759E-06	4.4193E+18	1.1493E+16
Cm-244	3.4229E-01	4.2309E-06	1.0442E+19	6.6826E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8356E+25	0.0000E+00	
Elemental I (atoms)	2.0802E+20	5.4669E+22	
Organic I (atoms)	1.0799E+21	0.0000E+00	
Aerosols (kg)	1.9529E-01	5.1743E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.7789E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.1455E-05
Total I (Ci)			6.9998E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5292E+21
Elemental I (atoms)	0.0000E+00	7.1777E+17
Organic I (atoms)	0.0000E+00	2.3502E+17
Aerosols (kg)	0.0000E+00	6.8454E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7007E+25
Elemental I (atoms)	0.0000E+00	5.1618E+21
Organic I (atoms)	0.0000E+00	1.7828E+21
Aerosols (kg)	0.0000E+00	4.9229E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6674E+25
Elemental I (atoms)	0.0000E+00	4.1226E+21
Organic I (atoms)	0.0000E+00	1.1527E+21
Aerosols (kg)	0.0000E+00	3.9832E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.4652E+02	3.7345E-04	2.6458E+21	5.4211E+12
Kr-85m	1.6816E+03	2.0434E-07	1.4477E+18	6.2220E+13
Kr-87	1.7746E+03	6.2648E-08	4.3365E+17	6.5658E+13
Kr-88	4.0347E+03	3.2177E-07	2.2020E+18	1.4928E+14
Rb-86	6.2450E-02	7.6750E-10	5.3744E+15	2.3106E+09
Sr-89	1.8513E+00	6.3724E-08	4.3118E+17	6.8499E+10
Sr-90	2.9146E-01	2.1367E-06	1.4297E+19	1.0784E+10

Sr-91	2.0912E+00	5.7689E-10	3.8177E+15	7.7375E+10
Sr-92	1.6568E+00	1.3181E-10	8.6282E+14	6.1302E+10
Y-90	4.9049E-03	9.0153E-12	6.0324E+13	1.8148E+08
Y-91	2.4189E-02	9.8636E-10	6.5274E+15	8.9500E+08
Y-92	2.1940E-01	2.2801E-11	1.4925E+14	8.1176E+09
Y-93	1.7067E-02	5.1155E-12	3.3125E+13	6.3147E+08
Zr-95	3.4097E-02	1.5872E-09	1.0061E+16	1.2616E+09
Zr-97	3.1061E-02	1.6248E-11	1.0087E+14	1.1492E+09
Nb-95	3.4122E-02	8.7261E-10	5.5315E+15	1.2625E+09
Mo-99	4.3978E-01	9.1693E-10	5.5777E+15	1.6272E+10
Tc-99m	3.9597E-01	7.5304E-11	4.5807E+14	1.4651E+10
Ru-103	3.8460E-01	1.1917E-08	6.9674E+16	1.4230E+10
Ru-105	2.1052E-01	3.1318E-11	1.7962E+14	7.7893E+09
Ru-106	1.6793E-01	5.0193E-08	2.8516E+17	6.2133E+09
Rh-105	2.5247E-01	2.9912E-10	1.7155E+15	9.3414E+09
Sb-127	4.1966E-01	1.5714E-09	7.4515E+15	1.5527E+10
Sb-129	1.1967E+00	2.1281E-10	9.9347E+14	4.4278E+10
Te-127	4.2133E-01	1.5965E-10	7.5704E+14	1.5589E+10
Te-127m	7.2274E-02	7.6622E-09	3.6333E+16	2.6742E+09
Te-129	1.3270E+00	6.3366E-11	2.9581E+14	4.9100E+10
Te-129m	2.9739E-01	9.8718E-09	4.6085E+16	1.1003E+10
Te-131m	9.3043E-01	1.1668E-09	5.3640E+15	3.4426E+10
Te-132	6.7162E+00	2.2122E-08	1.0093E+17	2.4850E+11
I-131	5.9490E+01	4.7985E-07	2.2059E+18	2.2011E+12
I-132	7.1139E+01	6.8919E-09	3.1442E+16	2.6322E+12
I-133	1.1756E+02	1.0377E-07	4.6988E+17	4.3496E+12
I-134	4.6375E+01	1.7384E-09	7.8126E+15	1.7159E+12
I-135	1.0088E+02	2.8726E-08	1.2814E+17	3.7326E+12
Xe-133	1.6923E+04	9.0412E-05	4.0938E+20	6.2617E+14
Xe-135	5.8570E+03	2.2935E-06	1.0231E+19	2.1671E+14
Cs-134	8.2496E+00	6.3761E-06	2.8655E+19	3.0524E+11
Cs-136	2.2445E+00	3.0624E-08	1.3561E+17	8.3046E+10
Cs-137	6.5430E+00	7.5223E-05	3.3066E+20	2.4209E+11
Ba-139	1.5695E+00	9.5954E-11	4.1572E+14	5.8072E+10
Ba-140	3.4707E+00	4.7408E-08	2.0393E+17	1.2841E+11
La-140	7.2970E-02	1.3128E-10	5.6471E+14	2.6999E+09
La-141	2.3964E-02	4.2375E-12	1.8098E+13	8.8669E+08
La-142	1.5286E-02	1.0678E-12	4.5285E+12	5.6557E+08
Ce-141	7.9937E-02	2.8055E-09	1.1982E+16	2.9577E+09
Ce-143	7.2165E-02	1.0867E-10	4.5764E+14	2.6701E+09
Ce-144	6.8708E-02	2.1542E-08	9.0089E+16	2.5422E+09
Pr-143	2.8967E-02	4.3017E-10	1.8116E+15	1.0718E+09
Nd-147	1.2813E-02	1.5838E-10	6.4882E+14	4.7406E+08
Np-239	9.2353E-01	3.9809E-09	1.0031E+16	3.4170E+10
Pu-238	2.4643E-04	1.4395E-08	3.6423E+16	9.1181E+06
Pu-239	2.3286E-05	3.7464E-07	9.4399E+17	8.6160E+05
Pu-240	4.2654E-05	1.8719E-07	4.6969E+17	1.5782E+06
Pu-241	9.4190E-03	9.1436E-08	2.2848E+17	3.4850E+08
Am-241	6.1864E-06	1.8025E-09	4.5040E+15	2.2890E+05
Cm-242	1.5730E-03	4.7460E-10	1.1810E+15	5.8200E+07
Cm-244	9.1467E-05	1.1306E-09	2.7904E+15	3.3843E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.0695E+21	3.8757E+17
Elemental I (atoms)	9.1943E+17	1.1609E+14
Organic I (atoms)	2.3140E+17	2.9217E+13
Aerosols (kg)	8.5060E-05	1.0740E-08

Dose Effective (Ci) I-131 (Thyroid)	8.2448E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0266E+02
Total I (Ci)	3.9544E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7400E+21
Elemental I (atoms)    3.6936E+16  5.0306E+17
Organic I (atoms)      0.0000E+00  1.2755E+17
Aerosols (kg)          4.6508E-04  6.4504E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1345E+21
Elemental I (atoms)    6.1423E+16  3.4888E+17
Organic I (atoms)      0.0000E+00  8.8205E+16
Aerosols (kg)          7.9306E-05  1.9555E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9514E+20
Elemental I (atoms)    1.1998E+16  6.8146E+16
Organic I (atoms)      0.0000E+00  1.5773E+16
Aerosols (kg)          8.1827E-06  1.0082E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2826E+18
Elemental I (atoms)    9.0428E+14  1.0969E+14
Organic I (atoms)      2.3916E+14  1.0413E+13
Aerosols (kg)          8.2023E-08  1.2247E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.8766E+17
Elemental I (atoms)    0.0000E+00  3.8327E+14
Organic I (atoms)      0.0000E+00  6.7552E+13
Aerosols (kg)          0.0000E+00  3.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.1426E+18  0.0000E+00
Elemental I (atoms)    3.9602E+14  0.0000E+00
Organic I (atoms)      5.1242E+13  0.0000E+00
Aerosols (kg)          4.2600E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.0068E-02  4.4122E-01  7.1268E-02
Accumulated dose (rem)  6.3206E-01  8.4680E+00  1.0288E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.1743E-03  1.9161E-02  3.0949E-03
Accumulated dose (rem)  5.7317E-02  8.0607E-01  9.4973E-02

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5025E-03  4.9921E-01  3.1052E-02
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Accumulated dose (rem) 6.4718E-02 1.0560E+01 5.2301E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.6125E+05	2.1952E+00	1.5553E+25	1.4321E+20
Kr-85m	8.9843E+06	1.0917E-03	7.7346E+21	1.6702E+21
Kr-87	7.3393E+06	2.5910E-04	1.7935E+21	1.8555E+21
Kr-88	2.0368E+07	1.6244E-03	1.1116E+22	4.0490E+21
Rb-86	8.7624E+01	1.0769E-06	7.5409E+18	3.6157E+17
Sr-89	4.3027E+03	1.4810E-04	1.0021E+21	1.3585E+19
Sr-90	6.7766E+02	4.9679E-03	3.3242E+22	2.1385E+18
Sr-91	4.6211E+03	1.2748E-06	8.4361E+18	1.5700E+19
Sr-92	3.2123E+03	2.5556E-07	1.6729E+18	1.3194E+19
Y-90	1.2162E+01	2.2353E-08	1.4957E+17	2.3736E+16
Y-91	5.6308E+01	2.2960E-06	1.5195E+19	1.7576E+17
Y-92	5.1266E+02	5.3278E-08	3.4875E+17	3.5547E+17
Y-93	3.7828E+01	1.1338E-08	7.3421E+16	1.2796E+17
Zr-95	7.9253E+01	3.6891E-06	2.3386E+19	2.5021E+17
Zr-97	7.0189E+01	3.6716E-08	2.2795E+17	2.3085E+17
Nb-95	7.9334E+01	2.0288E-06	1.2861E+19	2.5035E+17
Mo-99	1.0151E+03	2.1165E-06	1.2874E+19	3.2373E+18
Tc-99m	9.1903E+02	1.7478E-07	1.0632E+18	2.9010E+18
Ru-103	8.9376E+02	2.7693E-05	1.6191E+20	2.8225E+18
Ru-105	4.3860E+02	6.5248E-08	3.7422E+17	1.6231E+18
Ru-106	3.9041E+02	1.1670E-04	6.6298E+20	1.2321E+18
Rh-105	5.8544E+02	6.9361E-07	3.9781E+18	1.8533E+18
Sb-127	9.7067E+02	3.6348E-06	1.7235E+19	3.0863E+18
Sb-129	2.4855E+03	4.4199E-07	2.0634E+18	9.2397E+18
Te-127	9.7888E+02	3.7091E-07	1.7588E+18	3.0880E+18
Te-127m	1.6804E+02	1.7815E-05	8.4476E+19	5.3027E+17
Te-129	2.8902E+03	1.3801E-07	6.4427E+17	9.9024E+18
Te-129m	6.9138E+02	2.2950E-05	1.0714E+20	2.1820E+18
Te-131m	2.1289E+03	2.6698E-06	1.2273E+19	6.8763E+18
Te-132	1.5520E+04	5.1121E-05	2.3322E+20	4.9414E+19
I-131	7.8894E+04	6.3637E-04	2.9254E+21	2.2705E+20
I-132	9.6952E+04	9.3927E-06	4.2851E+19	3.2190E+20
I-133	1.5198E+05	1.3416E-04	6.0746E+20	4.5379E+20
I-134	2.9512E+04	1.1063E-06	4.9718E+18	2.4689E+20
I-135	1.2271E+05	3.4941E-05	1.5586E+20	4.0047E+20
Xe-133	9.9361E+07	5.3083E-01	2.4035E+24	1.6566E+22
Xe-135	3.4984E+07	1.3699E-02	6.1109E+22	5.9330E+21
Cs-134	1.1591E+04	8.9583E-03	4.0260E+22	4.7736E+19
Cs-136	3.1474E+03	4.2944E-05	1.9016E+20	1.2998E+19
Cs-137	9.1931E+03	1.0569E-01	4.6458E+23	3.7860E+19
Ba-139	2.5301E+03	1.5468E-07	6.7014E+17	1.3568E+19
Ba-140	8.0568E+03	1.1005E-04	4.7339E+20	2.5482E+19
La-140	1.8379E+02	3.3067E-07	1.4224E+18	3.0407E+17
La-141	4.9208E+01	8.7012E-09	3.7163E+16	1.8598E+17
La-142	2.5661E+01	1.7926E-09	7.6023E+15	1.2979E+17
Ce-141	1.8582E+02	6.5216E-06	2.7854E+19	5.8666E+17
Ce-143	1.6536E+02	2.4901E-07	1.0486E+18	5.3298E+17
Ce-144	1.5974E+02	5.0082E-05	2.0945E+20	5.0412E+17
Pr-143	6.7370E+01	1.0005E-06	4.2132E+18	2.1216E+17
Nd-147	2.9736E+01	3.6757E-07	1.5058E+18	9.4083E+16
Np-239	2.1291E+03	9.1774E-06	2.3124E+19	6.8020E+18
Pu-238	5.7298E-01	3.3469E-05	8.4686E+19	1.8081E+15
Pu-239	5.4147E-02	8.7114E-04	2.1950E+21	1.7084E+14
Pu-240	9.9172E-02	4.3522E-04	1.0921E+21	3.1295E+14
Pu-241	2.1900E+01	2.1259E-04	5.3122E+20	6.9107E+16
Am-241	1.4385E-02	4.1912E-06	1.0473E+19	4.5383E+13
Cm-242	3.6568E+00	1.1033E-06	2.7456E+18	1.1542E+16
Cm-244	2.1266E-01	2.6287E-06	6.4878E+18	6.7109E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8038E+25  0.0000E+00
Elemental I (atoms)    1.2993E+20  5.4908E+22
Organic I (atoms)      1.0617E+21  0.0000E+00
Aerosols (kg)          1.2236E-01  5.1967E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0277E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.9709E-05
Total I (Ci)                                   4.8004E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4673E+21
Elemental I (atoms)    0.0000E+00  1.4413E+18
Organic I (atoms)      0.0000E+00  4.9422E+17
Aerosols (kg)          0.0000E+00  1.3746E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4673E+21
Elemental I (atoms)    0.0000E+00  1.4413E+18
Organic I (atoms)      0.0000E+00  4.9422E+17
Aerosols (kg)          0.0000E+00  1.3746E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7302E+21
Elemental I (atoms)    0.0000E+00  7.1953E+17
Organic I (atoms)      0.0000E+00  2.4686E+17
Aerosols (kg)          0.0000E+00  6.8620E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9420E+25
Elemental I (atoms)    0.0000E+00  5.1830E+21
Organic I (atoms)      0.0000E+00  1.9249E+21
Aerosols (kg)          0.0000E+00  4.9427E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8772E+25
Elemental I (atoms)    0.0000E+00  4.3085E+21
Organic I (atoms)      0.0000E+00  1.2783E+21
Aerosols (kg)          0.0000E+00  4.1581E+00

Environment Integral Nuclide Release:

Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  1.6123E+02  4.1095E-04  2.9115E+21  5.9655E+12
Kr-85m                 1.8351E+03  2.2299E-07  1.5799E+18  6.7900E+13
Kr-87                  1.8999E+03  6.7075E-08  4.6429E+17  7.0298E+13
Kr-88                  4.3827E+03  3.4952E-07  2.3919E+18  1.6216E+14
Rb-86                  6.5497E-02  8.0496E-10  5.6367E+15  2.4234E+09
Sr-89                  1.9766E+00  6.8036E-08  4.6036E+17  7.3134E+10
Sr-90                  3.1119E-01  2.2814E-06  1.5265E+19  1.1514E+10
Sr-91                  2.2257E+00  6.1400E-10  4.0633E+15  8.2353E+10
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Sr-92	1.7503E+00	1.3925E-10	9.1152E+14	6.4762E+10
Y-90	5.3263E-03	9.7898E-12	6.5506E+13	1.9707E+08
Y-91	2.5838E-02	1.0536E-09	6.9724E+15	9.5601E+08
Y-92	2.4051E-01	2.4995E-11	1.6361E+14	8.8987E+09
Y-93	1.8168E-02	5.4456E-12	3.5262E+13	6.7222E+08
Zr-95	3.6405E-02	1.6946E-09	1.0742E+16	1.3470E+09
Zr-97	3.3104E-02	1.7317E-11	1.0751E+14	1.2249E+09
Nb-95	3.6432E-02	9.3168E-10	5.9060E+15	1.3480E+09
Mo-99	4.6933E-01	9.7856E-10	5.9525E+15	1.7365E+10
Tc-99m	4.2272E-01	8.0393E-11	4.8903E+14	1.5641E+10
Ru-103	4.1062E-01	1.2723E-08	7.4388E+16	1.5193E+10
Ru-105	2.2329E-01	3.3218E-11	1.9052E+14	8.2618E+09
Ru-106	1.7929E-01	5.3591E-08	3.0446E+17	6.6338E+09
Rh-105	2.6952E-01	3.1931E-10	1.8314E+15	9.9721E+09
Sb-127	4.4792E-01	1.6773E-09	7.9533E+15	1.6573E+10
Sb-129	1.2691E+00	2.2568E-10	1.0535E+15	4.6956E+10
Te-127	4.4983E-01	1.7045E-10	8.0824E+14	1.6644E+10
Te-127m	7.7167E-02	8.1809E-09	3.8792E+16	2.8552E+09
Te-129	1.4112E+00	6.7384E-11	3.1457E+14	5.2213E+10
Te-129m	3.1752E-01	1.0540E-08	4.9204E+16	1.1748E+10
Te-131m	9.9242E-01	1.2446E-09	5.7213E+15	3.6719E+10
Te-132	7.1680E+00	2.3611E-08	1.0772E+17	2.6522E+11
I-131	6.2777E+01	5.0637E-07	2.3278E+18	2.3227E+12
I-132	7.4693E+01	7.2362E-09	3.3013E+16	2.7637E+12
I-133	1.2389E+02	1.0937E-07	4.9520E+17	4.5840E+12
I-134	4.7605E+01	1.7845E-09	8.0198E+15	1.7614E+12
I-135	1.0600E+02	3.0182E-08	1.3464E+17	3.9218E+12
Xe-133	1.8619E+04	9.9470E-05	4.5039E+20	6.8890E+14
Xe-135	6.4349E+03	2.5198E-06	1.1240E+19	2.3809E+14
Cs-134	8.6528E+00	6.6877E-06	3.0055E+19	3.2015E+11
Cs-136	2.3540E+00	3.2118E-08	1.4222E+17	8.7096E+10
Cs-137	6.8628E+00	7.8899E-05	3.4682E+20	2.5392E+11
Ba-139	1.6432E+00	1.0046E-10	4.3523E+14	6.0798E+10
Ba-140	3.7052E+00	5.0612E-08	2.1771E+17	1.3709E+11
La-140	7.9588E-02	1.4319E-10	6.1593E+14	2.9448E+09
La-141	2.5397E-02	4.4908E-12	1.9180E+13	9.3969E+08
La-142	1.6033E-02	1.1200E-12	4.7499E+12	5.9322E+08
Ce-141	8.5346E-02	2.9953E-09	1.2793E+16	3.1578E+09
Ce-143	7.6980E-02	1.1592E-10	4.8817E+14	2.8482E+09
Ce-144	7.3358E-02	2.3000E-08	9.6187E+16	2.7143E+09
Pr-143	3.0931E-02	4.5933E-10	1.9344E+15	1.1444E+09
Nd-147	1.3678E-02	1.6908E-10	6.9267E+14	5.0610E+08
Np-239	9.8551E-01	4.2481E-09	1.0704E+16	3.6464E+10
Pu-238	2.6312E-04	1.5369E-08	3.8889E+16	9.7353E+06
Pu-239	2.4863E-05	4.0001E-07	1.0079E+18	9.1993E+05
Pu-240	4.5541E-05	1.9986E-07	5.0149E+17	1.6850E+06
Pu-241	1.0057E-02	9.7625E-08	2.4395E+17	3.7210E+08
Am-241	6.6052E-06	1.9245E-09	4.8090E+15	2.4439E+05
Cm-242	1.6794E-03	5.0673E-10	1.2610E+15	6.2139E+07
Cm-244	9.7659E-05	1.2071E-09	2.9793E+15	3.6134E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	3.3776E+21	4.0792E+17
Elemental I (atoms)	9.6933E+17	1.1707E+14
Organic I (atoms)	2.5137E+17	3.0359E+13
Aerosols (kg)	8.9275E-05	1.0782E-08

Dose Effective (Ci) I-131 (Thyroid)	8.6960E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0821E+02
Total I (Ci)	4.1496E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.8997E+21
Elemental I (atoms)    3.8677E+16  5.2678E+17
Organic I (atoms)      0.0000E+00  1.3767E+17
Aerosols (kg)          4.8656E-04  6.7482E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2594E+21
Elemental I (atoms)    6.5178E+16  3.7021E+17
Organic I (atoms)      0.0000E+00  9.6468E+16
Aerosols (kg)          8.4032E-05  2.0720E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1870E+20
Elemental I (atoms)    1.2866E+16  7.3081E+16
Organic I (atoms)      0.0000E+00  1.7406E+16
Aerosols (kg)          8.7631E-06  1.0798E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5601E+18
Elemental I (atoms)    9.4884E+14  1.1014E+14
Organic I (atoms)      2.5700E+14  1.0593E+13
Aerosols (kg)          8.5780E-08  1.2285E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.4855E+17
Elemental I (atoms)    0.0000E+00  3.9315E+14
Organic I (atoms)      0.0000E+00  7.1506E+13
Aerosols (kg)          0.0000E+00  3.9774E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    2.4574E+18  0.0000E+00
Elemental I (atoms)    4.1083E+14  0.0000E+00
Organic I (atoms)      5.5493E+13  0.0000E+00
Aerosols (kg)          4.3955E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.7696E-01  7.0662E+00  1.3079E+00
Accumulated dose (rem)  1.6090E+00  1.5534E+01  2.3367E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2426E-02  3.0686E-01  5.6799E-02
Accumulated dose (rem)  9.9743E-02  1.1129E+00  1.5177E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3382E-01  6.5321E+00  4.4222E-01
Accumulated dose (rem)  1.9854E-01  1.7093E+01  9.6523E-01
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.2283E+05	2.0973E+00	1.4859E+25	3.3083E+20
Kr-85m	6.5982E+06	8.0177E-04	5.6804E+21	3.3922E+21
Kr-87	2.7759E+06	9.7999E-05	6.7835E+20	2.9002E+21
Kr-88	1.2851E+07	1.0249E-03	7.0135E+21	7.6843E+21
Rb-86	1.0688E+02	1.3135E-06	9.1977E+18	4.0061E+17
Sr-89	5.2374E+03	1.8027E-04	1.2198E+21	1.5497E+19
Sr-90	8.2567E+02	6.0530E-03	4.0502E+22	2.4397E+18
Sr-91	4.9736E+03	1.3720E-06	9.0797E+18	1.7645E+19
Sr-92	2.5338E+03	2.0158E-07	1.3195E+18	1.4377E+19
Y-90	2.9935E+01	5.5022E-08	3.6817E+17	3.1516E+16
Y-91	7.0459E+01	2.8731E-06	1.9013E+19	2.0109E+17
Y-92	1.3654E+03	1.4189E-07	9.2881E+17	7.2026E+17
Y-93	4.1015E+01	1.2294E-08	7.9606E+16	1.4392E+17
Zr-95	9.6489E+01	4.4915E-06	2.8472E+19	2.8542E+17
Zr-97	7.9759E+01	4.1722E-08	2.5903E+17	2.6110E+17
Nb-95	9.6660E+01	2.4719E-06	1.5670E+19	2.8561E+17
Mo-99	1.2149E+03	2.5331E-06	1.5409E+19	3.6849E+18
Tc-99m	1.1135E+03	2.1177E-07	1.2882E+18	3.3063E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2195E+18
Ru-105	4.0983E+02	6.0968E-08	3.4968E+17	1.7967E+18
Ru-106	4.7562E+02	1.4216E-04	8.0767E+20	1.4056E+18
Rh-105	7.0532E+02	8.3563E-07	4.7927E+18	2.1121E+18
Sb-127	1.1677E+03	4.3725E-06	2.0734E+19	3.5153E+18
Sb-129	2.3054E+03	4.0997E-07	1.9139E+18	1.0220E+19
Te-127	1.1898E+03	4.5084E-07	2.1378E+18	3.5211E+18
Te-127m	2.0475E+02	2.1707E-05	1.0293E+20	6.0496E+17
Te-129	2.9459E+03	1.4067E-07	6.5667E+17	1.1064E+19
Te-129m	8.4201E+02	2.7950E-05	1.3048E+20	2.4892E+18
Te-131m	2.4940E+03	3.1276E-06	1.4378E+19	7.8061E+18
Te-132	1.8627E+04	6.1355E-05	2.7991E+20	5.6266E+19
I-131	9.8982E+04	7.9840E-04	3.6703E+21	2.5831E+20
I-132	8.1463E+04	7.8920E-06	3.6005E+19	3.5363E+20
I-133	1.8125E+05	1.6000E-04	7.2448E+20	5.1261E+20
I-134	9.7132E+03	3.6411E-07	1.6364E+18	2.5361E+20
I-135	1.2959E+05	3.6900E-05	1.6460E+20	4.4541E+20
Xe-133	9.4035E+07	5.0237E-01	2.2747E+24	3.8109E+22
Xe-135	2.9295E+07	1.1472E-02	5.1173E+22	1.3068E+22
Cs-134	1.4173E+04	1.0955E-02	4.9231E+22	5.2905E+19
Cs-136	3.8346E+03	5.2321E-05	2.3168E+20	1.4400E+19
Cs-137	1.1242E+04	1.2925E-01	5.6815E+23	4.1960E+19
Ba-139	1.3111E+03	8.0158E-08	3.4728E+17	1.4355E+19
Ba-140	9.7788E+03	1.3357E-04	5.7457E+20	2.9057E+19
La-140	5.0614E+02	9.1061E-07	3.9170E+18	4.3020E+17
La-141	4.4424E+01	7.8552E-09	3.3550E+16	2.0516E+17
La-142	1.4559E+01	1.0170E-09	4.3131E+15	1.3806E+17
Ce-141	2.2614E+02	7.9366E-06	3.3897E+19	6.6921E+17
Ce-143	1.9441E+02	2.9275E-07	1.2329E+18	6.0532E+17
Ce-144	1.9459E+02	6.1011E-05	2.5515E+20	5.7512E+17
Pr-143	8.2513E+01	1.2253E-06	5.1603E+18	2.4217E+17
Nd-147	3.6069E+01	4.4585E-07	1.8265E+18	1.0727E+17
Np-239	2.5406E+03	1.0951E-05	2.7594E+19	7.7396E+18
Pu-238	6.9813E-01	4.0779E-05	1.0318E+20	2.0628E+15
Pu-239	6.5988E-02	1.0616E-03	2.6750E+21	1.9491E+14
Pu-240	1.2083E-01	5.3028E-04	1.3306E+21	3.5703E+14
Pu-241	2.6683E+01	2.5902E-04	6.4725E+20	7.8841E+16
Am-241	1.7535E-02	5.1091E-06	1.2767E+19	5.1779E+13
Cm-242	4.4541E+00	1.3439E-06	3.3443E+18	1.3167E+16
Cm-244	2.5911E-01	3.2028E-06	7.9047E+18	7.6562E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    1.7198E+25  0.0000E+00
Elemental I (atoms)    5.7118E+20  5.4908E+22
Organic I (atoms)      9.9405E+20  0.0000E+00
Aerosols (kg)          1.4959E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.9589E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.9965E-05
Total I (Ci)                                   5.0100E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3972E+22
Elemental I (atoms)    0.0000E+00  1.6288E+18
Organic I (atoms)      0.0000E+00  8.7442E+17
Aerosols (kg)          0.0000E+00  1.4648E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3972E+22
Elemental I (atoms)    0.0000E+00  1.6288E+18
Organic I (atoms)      0.0000E+00  8.7442E+17
Aerosols (kg)          0.0000E+00  1.4648E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.9918E+21
Elemental I (atoms)    0.0000E+00  8.1351E+17
Organic I (atoms)      0.0000E+00  4.3750E+17
Aerosols (kg)          0.0000E+00  7.3146E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8559E+25
Elemental I (atoms)    0.0000E+00  6.3107E+21
Organic I (atoms)      0.0000E+00  4.2126E+21
Aerosols (kg)          0.0000E+00  5.4858E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7122E+25
Elemental I (atoms)    0.0000E+00  5.8907E+21
Organic I (atoms)      0.0000E+00  3.5253E+21
Aerosols (kg)          0.0000E+00  5.3425E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  5.2012E+02  1.3257E-03  9.3925E+21  1.9245E+13
Kr-85m                 5.0639E+03  6.1533E-07  4.3596E+18  1.8736E+14
Kr-87                  3.7617E+03  1.3280E-07  9.1925E+17  1.3918E+14
Kr-88                  1.1120E+04  8.8684E-07  6.0690E+18  4.1145E+14
Rb-86                  1.1024E-01  1.3549E-09  9.4875E+15  4.0790E+09
Sr-89                  3.8589E+00  1.3283E-07  8.9876E+17  1.4278E+11
Sr-90                  6.0779E-01  4.4557E-06  2.9815E+19  2.2488E+10
Sr-91                  4.1262E+00  1.1383E-09  7.5328E+15  1.5267E+11
Sr-92                  2.8869E+00  2.2967E-10  1.5034E+15  1.0681E+11
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Y-90	1.4236E-02	2.6166E-11	1.7508E+14	5.2673E+08
Y-91	5.0945E-02	2.0774E-09	1.3748E+16	1.8850E+09
Y-92	6.8700E-01	7.1396E-11	4.6734E+14	2.5419E+10
Y-93	3.3783E-02	1.0126E-11	6.5568E+13	1.2500E+09
Zr-95	7.1079E-02	3.3086E-09	2.0974E+16	2.6299E+09
Zr-97	6.2763E-02	3.2832E-11	2.0383E+14	2.3222E+09
Nb-95	7.1154E-02	1.8197E-09	1.1535E+16	2.6327E+09
Mo-99	9.0962E-01	1.8966E-09	1.1537E+16	3.3656E+10
Tc-99m	8.2391E-01	1.5669E-10	9.5314E+14	3.0485E+10
Ru-103	8.0156E-01	2.4836E-08	1.4521E+17	2.9658E+10
Ru-105	3.9158E-01	5.8253E-11	3.3410E+14	1.4488E+10
Ru-106	3.5016E-01	1.0466E-07	5.9462E+17	1.2956E+10
Rh-105	5.2441E-01	6.2130E-10	3.5634E+15	1.9403E+10
Sb-127	8.7003E-01	3.2579E-09	1.5448E+16	3.2191E+10
Sb-129	2.2193E+00	3.9466E-10	1.8424E+15	8.2115E+10
Te-127	8.7779E-01	3.3261E-10	1.5772E+15	3.2478E+10
Te-127m	1.5072E-01	1.5978E-08	7.5767E+16	5.5765E+09
Te-129	2.5712E+00	1.2277E-10	5.7315E+14	9.5134E+10
Te-129m	6.2006E-01	2.0583E-08	9.6087E+16	2.2942E+10
Te-131m	1.9059E+00	2.3901E-09	1.0987E+16	7.0518E+10
Te-132	1.3909E+01	4.5815E-08	2.0902E+17	5.1464E+11
I-131	1.1605E+02	9.3607E-07	4.3032E+18	4.2938E+12
I-132	1.2282E+02	1.1899E-08	5.4286E+16	4.5445E+12
I-133	2.2387E+02	1.9763E-07	8.9484E+17	8.2833E+12
I-134	5.8291E+01	2.1851E-09	9.8200E+15	2.1568E+12
I-135	1.8186E+02	5.1784E-08	2.3100E+17	6.7288E+12
Xe-133	5.9775E+04	3.1934E-04	1.4460E+21	2.2117E+15
Xe-135	1.9728E+04	7.7251E-06	3.4461E+19	7.2993E+14
Cs-134	1.4579E+01	1.1268E-05	5.0641E+19	5.3943E+11
Cs-136	3.9603E+00	5.4035E-08	2.3927E+17	1.4653E+11
Cs-137	1.1564E+01	1.3294E-04	5.8437E+20	4.2785E+11
Ba-139	2.3826E+00	1.4566E-10	6.3109E+14	8.8157E+10
Ba-140	7.2247E+00	9.8686E-08	4.2450E+17	2.6731E+11
La-140	2.2716E-01	4.0869E-10	1.7580E+15	8.4050E+09
La-141	4.3966E-02	7.7741E-12	3.3203E+13	1.6267E+09
La-142	2.3839E-02	1.6653E-12	7.0625E+12	8.8204E+08
Ce-141	1.6662E-01	5.8477E-09	2.4976E+16	6.1650E+09
Ce-143	1.4806E-01	2.2296E-10	9.3893E+14	5.4782E+09
Ce-144	1.4327E-01	4.4918E-08	1.8785E+17	5.3009E+09
Pr-143	6.0521E-02	8.9876E-10	3.7849E+15	2.2393E+09
Nd-147	2.6664E-02	3.2959E-10	1.3502E+15	9.8655E+08
Np-239	1.9076E+00	8.2227E-09	2.0719E+16	7.0581E+10
Pu-238	5.1390E-04	3.0018E-08	7.5955E+16	1.9014E+07
Pu-239	4.8565E-05	7.8133E-07	1.9687E+18	1.7969E+06
Pu-240	8.8947E-05	3.9035E-07	9.7946E+17	3.2910E+06
Pu-241	1.9642E-02	1.9067E-07	4.7645E+17	7.2674E+08
Am-241	1.2903E-05	3.7595E-09	9.3942E+15	4.7741E+05
Cm-242	3.2797E-03	9.8957E-10	2.4625E+15	1.2135E+08
Cm-244	1.9074E-04	2.3576E-09	5.8189E+15	7.0573E+06

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.0884E+22	7.5585E+17
Elemental I (atoms)	1.7552E+18	1.2189E+14
Organic I (atoms)	7.1293E+17	4.9509E+13
Aerosols (kg)	1.5131E-04	1.0507E-08

Dose Effective (Ci) I-131 (Thyroid)	1.5937E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.9644E+02
Total I (Ci)	7.0290E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4708E+21

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Elemental I (atoms)    6.3865E+16  8.6983E+17
Organic I (atoms)      0.0000E+00  3.5480E+17
Aerosols (kg)          7.8852E-04  1.0936E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4957E+21
Elemental I (atoms)    1.2619E+17  7.1674E+17
Organic I (atoms)      0.0000E+00  2.9673E+17
Aerosols (kg)          1.6005E-04  3.9465E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1881E+20
Elemental I (atoms)    3.0021E+16  1.7052E+17
Organic I (atoms)      0.0000E+00  6.2251E+16
Aerosols (kg)          2.0187E-05  2.4874E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0320E+19
Elemental I (atoms)    1.6504E+15  1.1723E+14
Organic I (atoms)      6.6907E+14  1.4756E+13
Aerosols (kg)          1.4108E-07  1.2843E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3321E+18
Elemental I (atoms)    0.0000E+00  5.4867E+14
Organic I (atoms)      0.0000E+00  1.6285E+14
Aerosols (kg)          0.0000E+00  5.2032E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    9.4335E+18  0.0000E+00
Elemental I (atoms)    6.0220E+14  0.0000E+00
Organic I (atoms)      1.3961E+14  0.0000E+00
Aerosols (kg)          6.0289E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0698E+00  1.3045E+01  2.6269E+00
Accumulated dose (rem)  3.6788E+00  2.8580E+01  4.9636E+00

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.9883E-02  5.6652E-01  1.1408E-01
Accumulated dose (rem)  1.8963E-01  1.6794E+00  2.6585E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1205E-01  1.0869E+01  7.8715E-01
Accumulated dose (rem)  5.1059E-01  2.7962E+01  1.7524E+00
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	8.2161E+05	2.0942E+00	1.4837E+25	7.6887E+20
Kr-85m	3.5482E+06	4.3115E-04	3.0546E+21	6.0115E+21
Kr-87	3.1324E+05	1.1058E-05	7.6546E+19	3.5015E+21
Kr-88	4.8340E+06	3.8551E-04	2.6382E+21	1.2053E+22
Rb-86	1.3081E+02	1.6077E-06	1.1258E+19	4.6972E+17
Sr-89	6.4355E+03	2.2152E-04	1.4989E+21	1.8891E+19
Sr-90	1.0169E+03	7.4547E-03	4.9882E+22	2.9753E+18
Sr-91	4.5749E+03	1.2621E-06	8.3519E+18	2.0439E+19
Sr-92	1.1218E+03	8.9248E-08	5.8420E+17	1.5400E+19
Y-90	7.8441E+01	1.4418E-07	9.6472E+17	6.1786E+16
Y-91	9.1007E+01	3.7109E-06	2.4558E+19	2.4795E+17
Y-92	1.7711E+03	1.8406E-07	1.2048E+18	1.6899E+18
Y-93	3.8388E+01	1.1506E-08	7.4506E+16	1.6716E+17
Zr-95	1.1862E+02	5.5216E-06	3.5002E+19	3.4796E+17
Zr-97	8.3368E+01	4.3610E-08	2.7075E+17	3.0878E+17
Nb-95	1.1904E+02	3.0443E-06	1.9298E+19	3.4831E+17
Mo-99	1.4347E+03	2.9914E-06	1.8197E+19	4.4566E+18
Tc-99m	1.3431E+03	2.5543E-07	1.5538E+18	4.0178E+18
Ru-103	1.3356E+03	4.1382E-05	2.4195E+20	3.9240E+18
Ru-105	2.7032E+02	4.0214E-08	2.3064E+17	1.9938E+18
Ru-106	5.8559E+02	1.7503E-04	9.9441E+20	1.7141E+18
Rh-105	8.3138E+02	9.8498E-07	5.6492E+18	2.5603E+18
Sb-127	1.3956E+03	5.2260E-06	2.4781E+19	4.2614E+18
Sb-129	1.4945E+03	2.6576E-07	1.2406E+18	1.1320E+19
Te-127	1.4520E+03	5.5018E-07	2.6089E+18	4.2870E+18
Te-127m	2.5217E+02	2.6734E-05	1.2677E+20	7.3779E+17
Te-129	2.3010E+03	1.0987E-07	5.1293E+17	1.2557E+19
Te-129m	1.0350E+03	3.4358E-05	1.6039E+20	3.0350E+18
Te-131m	2.8004E+03	3.5119E-06	1.6145E+19	9.3509E+18
Te-132	2.2142E+04	7.2932E-05	3.3273E+20	6.8136E+19
I-131	1.1249E+05	9.0737E-04	4.1712E+21	3.1819E+20
I-132	4.4138E+04	4.2760E-06	1.9508E+19	3.8731E+20
I-133	1.8284E+05	1.6140E-04	7.3082E+20	6.1595E+20
I-134	4.7372E+02	1.7758E-08	7.9806E+16	2.5538E+20
I-135	9.8191E+04	2.7960E-05	1.2472E+20	5.0980E+20
Xe-133	9.1854E+07	4.9072E-01	2.2219E+24	8.7624E+22
Xe-135	2.1589E+07	8.4539E-03	3.7711E+22	2.6518E+22
Cs-134	1.7453E+04	1.3490E-02	6.0624E+22	6.2099E+19
Cs-136	4.6813E+03	6.3872E-05	2.8283E+20	1.6876E+19
Cs-137	1.3846E+04	1.5918E-01	6.9972E+23	4.9254E+19
Ba-139	2.1603E+02	1.3207E-08	5.7219E+16	1.4717E+19
Ba-140	1.1935E+04	1.6302E-04	7.0125E+20	3.5372E+19
La-140	1.3802E+03	2.4831E-06	1.0681E+19	9.5708E+17
La-141	2.7020E+01	4.7779E-09	2.0406E+16	2.2576E+17
La-142	2.9685E+00	2.0737E-10	8.7944E+14	1.4240E+17
Ce-141	2.7766E+02	9.7449E-06	4.1620E+19	8.1569E+17
Ce-143	2.2014E+02	3.3150E-07	1.3960E+18	7.2623E+17
Ce-144	2.3956E+02	7.5110E-05	3.1411E+20	7.0133E+17
Pr-143	1.0271E+02	1.5253E-06	6.4233E+18	2.9598E+17
Nd-147	4.3957E+01	5.4336E-07	2.2260E+18	1.3055E+17
Np-239	2.9792E+03	1.2842E-05	3.2357E+19	9.3476E+18
Pu-238	8.5982E-01	5.0224E-05	1.2708E+20	2.5157E+15
Pu-239	8.1310E-02	1.3081E-03	3.2962E+21	2.3773E+14
Pu-240	1.4882E-01	6.5308E-04	1.6387E+21	4.3542E+14
Pu-241	3.2861E+01	3.1900E-04	7.9712E+20	9.6151E+16
Am-241	2.1620E-02	6.2993E-06	1.5741E+19	6.3161E+13
Cm-242	5.4818E+00	1.6540E-06	4.1159E+18	1.6055E+16
Cm-244	3.1911E-01	3.9444E-06	9.7352E+18	9.3372E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	1.7102E+25	0.0000E+00

```
Elemental I (atoms)    5.4477E+20  5.4908E+22
Organic I (atoms)      9.4536E+20  0.0000E+00
Aerosols (kg)          1.8418E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.4285E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.3615E-05
Total I (Ci)                                   4.3813E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9092E+22
Elemental I (atoms)    0.0000E+00  2.1210E+18
Organic I (atoms)      0.0000E+00  1.7289E+18
Aerosols (kg)          0.0000E+00  1.6250E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9092E+22
Elemental I (atoms)    0.0000E+00  2.1210E+18
Organic I (atoms)      0.0000E+00  1.7289E+18
Aerosols (kg)          0.0000E+00  1.6250E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4573E+22
Elemental I (atoms)    0.0000E+00  1.0603E+18
Organic I (atoms)      0.0000E+00  8.6595E+17
Aerosols (kg)          0.0000E+00  8.1179E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5954E+26
Elemental I (atoms)    0.0000E+00  9.2728E+21
Organic I (atoms)      0.0000E+00  9.3540E+21
Aerosols (kg)          0.0000E+00  6.4498E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4811E+26
Elemental I (atoms)    0.0000E+00  8.8548E+21
Organic I (atoms)      0.0000E+00  8.6673E+21
Aerosols (kg)          0.0000E+00  6.3416E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  1.8671E+03  4.7588E-03  3.3716E+22  6.9081E+13
Kr-85m                 1.2906E+04  1.5682E-06  1.1110E+19  4.7750E+14
Kr-87                  5.4462E+03  1.9227E-07  1.3309E+18  2.0151E+14
Kr-88                  2.3997E+04  1.9137E-06  1.3096E+19  8.8787E+14
Rb-86                  1.6987E-01  2.0877E-09  1.4619E+16  6.2854E+09
Sr-89                  6.4717E+00  2.2276E-07  1.5073E+18  2.3945E+11
Sr-90                  1.0201E+00  7.4785E-06  5.0041E+19  3.7745E+10
Sr-91                  6.3114E+00  1.7411E-09  1.1522E+16  2.3352E+11
Sr-92                  3.7185E+00  2.9584E-10  1.9365E+15  1.3759E+11
Y-90                   3.7606E-02  6.9121E-11  4.6251E+14  1.3914E+09
```

Y-91	8.7060E-02	3.5500E-09	2.3493E+16	3.2212E+09
Y-92	1.4784E+00	1.5364E-10	1.0057E+15	5.4702E+10
Y-93	5.1937E-02	1.5567E-11	1.0080E+14	1.9217E+09
Zr-95	1.1923E-01	5.5498E-09	3.5181E+16	4.4114E+09
Zr-97	9.9796E-02	5.2204E-11	3.2410E+14	3.6925E+09
Nb-95	1.1942E-01	3.0541E-09	1.9360E+16	4.4187E+09
Mo-99	1.5050E+00	3.1379E-09	1.9088E+16	5.5685E+10
Tc-99m	1.3752E+00	2.6154E-10	1.5909E+15	5.0884E+10
Ru-103	1.3440E+00	4.1643E-08	2.4348E+17	4.9727E+10
Ru-105	5.4847E-01	8.1594E-11	4.6797E+14	2.0294E+10
Ru-106	5.8765E-01	1.7565E-07	9.9791E+17	2.1743E+10
Rh-105	8.7035E-01	1.0312E-09	5.9141E+15	3.2203E+10
Sb-127	1.4454E+00	5.4122E-09	2.5664E+16	5.3478E+10
Sb-129	3.0958E+00	5.5052E-10	2.5700E+15	1.1455E+11
Te-127	1.4697E+00	5.5691E-10	2.6408E+15	5.4380E+10
Te-127m	2.5297E-01	2.6818E-08	1.2717E+17	9.3598E+09
Te-129	3.7784E+00	1.8042E-10	8.4225E+14	1.3980E+11
Te-129m	1.0402E+00	3.4530E-08	1.6120E+17	3.8489E+10
Te-131m	3.1010E+00	3.8888E-09	1.7877E+16	1.1474E+11
Te-132	2.3064E+01	7.5971E-08	3.4660E+17	8.5338E+11
I-131	2.1789E+02	1.7575E-06	8.0795E+18	8.0619E+12
I-132	1.7796E+02	1.7240E-08	7.8654E+16	6.5844E+12
I-133	3.9988E+02	3.5300E-07	1.5984E+18	1.4796E+13
I-134	6.1391E+01	2.3013E-09	1.0342E+16	2.2715E+12
I-135	2.9188E+02	8.3114E-08	3.7076E+17	1.0800E+13
Xe-133	2.1187E+05	1.1319E-03	5.1250E+21	7.8390E+15
Xe-135	6.0411E+04	2.3656E-05	1.0553E+20	2.2352E+15
Cs-134	2.2509E+01	1.7397E-05	7.8184E+19	8.3282E+11
Cs-136	6.0974E+00	8.3194E-08	3.6839E+17	2.2560E+11
Cs-137	1.7854E+01	2.0526E-04	9.0225E+20	6.6058E+11
Ba-139	2.6909E+00	1.6451E-10	7.1273E+14	9.9562E+10
Ba-140	1.2088E+01	1.6512E-07	7.1026E+17	4.4726E+11
La-140	6.3429E-01	1.1412E-09	4.9087E+15	2.3469E+10
La-141	6.0433E-02	1.0686E-11	4.5640E+13	2.2360E+09
La-142	2.7497E-02	1.9209E-12	8.1462E+12	1.0174E+09
Ce-141	2.7939E-01	9.8055E-09	4.1880E+16	1.0338E+10
Ce-143	2.4157E-01	3.6376E-10	1.5319E+15	8.9380E+09
Ce-144	2.4043E-01	7.5381E-08	3.1525E+17	8.8958E+09
Pr-143	1.0196E-01	1.5141E-09	6.3762E+15	3.7723E+09
Nd-147	4.4591E-02	5.5119E-10	2.2581E+15	1.6499E+09
Np-239	3.1487E+00	1.3573E-08	3.4199E+16	1.1650E+11
Pu-238	8.6254E-04	5.0383E-08	1.2748E+17	3.1914E+07
Pu-239	8.1526E-05	1.3116E-06	3.3049E+18	3.0165E+06
Pu-240	1.4929E-04	6.5516E-07	1.6439E+18	5.5237E+06
Pu-241	3.2967E-02	3.2002E-07	7.9968E+17	1.2198E+09
Am-241	2.1665E-05	6.3122E-09	1.5773E+16	8.0159E+05
Cm-242	5.5034E-03	1.6605E-09	4.1321E+15	2.0362E+08
Cm-244	3.2014E-04	3.9571E-09	9.7664E+15	1.1845E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.8972E+22	1.3532E+18
Elemental I (atoms)	3.1679E+18	1.1000E+14
Organic I (atoms)	2.3216E+18	8.0610E+13
Aerosols (kg)	2.3446E-04	8.1410E-09

Dose Effective (Ci) I-131 (Thyroid)	2.9402E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.5652E+02
Total I (Ci)	1.1490E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7537E+22
Elemental I (atoms)	1.0802E+17	1.4712E+18

```
Organic I (atoms)      0.0000E+00  1.0447E+18
Aerosols (kg)          1.1912E-03  1.6521E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6819E+22
Elemental I (atoms)    2.2663E+17  1.2873E+18
Organic I (atoms)      0.0000E+00  1.0021E+18
Aerosols (kg)          2.5811E-04  6.3644E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6201E+21
Elemental I (atoms)    7.2743E+16  4.1318E+17
Organic I (atoms)      0.0000E+00  2.7760E+17
Aerosols (kg)          4.5607E-05  5.6196E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5615E+19
Elemental I (atoms)    2.9115E+15  1.2996E+14
Organic I (atoms)      2.1049E+15  2.9259E+13
Aerosols (kg)          2.1521E-07  1.3592E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.8829E+18
Elemental I (atoms)    0.0000E+00  8.2819E+14
Organic I (atoms)      0.0000E+00  4.8112E+14
Aerosols (kg)          0.0000E+00  6.8464E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    3.8202E+19  0.0000E+00
Elemental I (atoms)    9.1048E+14  0.0000E+00
Organic I (atoms)      4.5136E+14  0.0000E+00
Aerosols (kg)          8.0058E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.3755E+00  3.7800E+01  4.8031E+00
Accumulated dose (rem)  7.0543E+00  6.6380E+01  9.7667E+00

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.4405E-02  5.4370E-01  1.1494E-01
Accumulated dose (rem)  2.8403E-01  2.2231E+00  3.8079E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.5155E-01  1.3628E+01  7.7136E-01
Accumulated dose (rem)  7.6214E-01  4.1590E+01  2.5237E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	2.5150E+21
Kr-85m	2.9689E+05	3.6076E-05	2.5559E+20	8.8043E+21
Kr-87	5.0820E+01	1.7941E-09	1.2419E+16	3.5780E+21
Kr-88	9.6840E+04	7.7230E-06	5.2851E+19	1.4634E+22
Rb-86	1.2694E+02	1.5601E-06	1.0924E+19	7.4433E+17
Sr-89	6.3432E+03	2.1834E-04	1.4774E+21	3.2506E+19
Sr-90	1.0115E+03	7.4150E-03	4.9616E+22	5.1364E+18
Sr-91	1.4161E+03	3.9064E-07	2.5852E+18	2.6179E+19
Sr-92	1.8634E+01	1.4825E-09	9.7042E+15	1.5974E+19
Y-90	2.2719E+02	4.1758E-07	2.7941E+18	3.8361E+17
Y-91	9.8680E+01	4.0238E-06	2.6629E+19	4.5153E+17
Y-92	1.8128E+02	1.8839E-08	1.2332E+17	3.3422E+18
Y-93	1.2735E+01	3.8172E-09	2.4718E+16	2.1670E+17
Zr-95	1.1714E+02	5.4529E-06	3.4567E+19	5.9916E+17
Zr-97	4.3022E+01	2.2505E-08	1.3972E+17	4.3874E+17
Nb-95	1.1839E+02	3.0275E-06	1.9192E+19	6.0121E+17
Mo-99	1.2064E+03	2.5153E-06	1.5301E+19	7.2636E+18
Tc-99m	1.2090E+03	2.2992E-07	1.3986E+18	6.6353E+18
Ru-103	1.3130E+03	4.0682E-05	2.3785E+20	6.7459E+18
Ru-105	2.2120E+01	3.2906E-09	1.8873E+16	2.2051E+18
Ru-106	5.8176E+02	1.7389E-04	9.8791E+20	2.9579E+18
Rh-105	6.2951E+02	7.4582E-07	4.2775E+18	4.1168E+18
Sb-127	1.2312E+03	4.6104E-06	2.1862E+19	7.0566E+18
Sb-129	1.1409E+02	2.0289E-08	9.4715E+16	1.2463E+19
Te-127	1.3762E+03	5.2147E-07	2.4727E+18	7.2267E+18
Te-127m	2.5077E+02	2.6586E-05	1.2606E+20	1.2736E+18
Te-129	1.0397E+03	4.9646E-08	2.3176E+17	1.5139E+19
Te-129m	1.0171E+03	3.3762E-05	1.5761E+20	5.2220E+18
Te-131m	1.9247E+03	2.4138E-06	1.1096E+19	1.4327E+19
Te-132	1.9112E+04	6.2954E-05	2.8721E+20	1.1201E+20
I-131	1.0575E+05	8.5298E-04	3.9212E+21	5.5064E+20
I-132	2.2872E+04	2.2158E-06	1.0109E+19	4.4052E+20
I-133	1.0671E+05	9.4199E-05	4.2653E+20	9.1722E+20
I-134	1.5105E-03	5.6624E-14	2.5448E+11	2.5546E+20
I-135	1.8243E+04	5.1947E-06	2.3173E+19	6.1102E+20
Xe-133	8.3674E+07	4.4702E-01	2.0241E+24	2.7451E+23
Xe-135	6.3642E+06	2.4921E-03	1.1117E+22	5.3080E+22
Cs-134	1.7350E+04	1.3410E-02	6.0266E+22	9.9181E+19
Cs-136	4.4951E+03	6.1332E-05	2.7158E+20	2.6652E+19
Cs-137	1.3772E+04	1.5833E-01	6.9599E+23	7.8680E+19
Ba-139	6.8831E-02	4.2080E-12	1.8231E+13	1.4774E+19
Ba-140	1.1449E+04	1.5638E-04	6.7269E+20	6.0283E+19
La-140	3.8647E+03	6.9531E-06	2.9909E+19	6.5320E+18
La-141	1.5989E+00	2.8272E-10	1.2075E+15	2.4492E+17
La-142	2.2184E-03	1.5497E-13	6.5721E+11	1.4327E+17
Ce-141	2.7242E+02	9.5609E-06	4.0835E+19	1.4018E+18
Ce-143	1.5647E+02	2.3562E-07	9.9228E+17	1.1237E+18
Ce-144	2.3791E+02	7.4591E-05	3.1194E+20	1.2101E+18
Pr-143	1.0497E+02	1.5589E-06	6.5648E+18	5.1736E+17
Nd-147	4.1922E+01	5.1821E-07	2.1229E+18	2.2203E+17
Np-239	2.4354E+03	1.0498E-05	2.6452E+19	1.5097E+19
Pu-238	8.5534E-01	4.9963E-05	1.2642E+20	4.3431E+15
Pu-239	8.1021E-02	1.3035E-03	3.2845E+21	4.1069E+14
Pu-240	1.4803E-01	6.4963E-04	1.6301E+21	7.5170E+14
Pu-241	3.2685E+01	3.1729E-04	7.9284E+20	1.6599E+17
Am-241	2.1602E-02	6.2938E-06	1.5727E+19	1.0921E+14
Cm-242	5.4373E+00	1.6406E-06	4.0825E+18	2.7689E+16
Cm-244	3.1740E-01	3.9233E-06	9.6830E+18	1.6119E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.6793E+25	0.0000E+00
Elemental I (atoms)	4.7294E+20	5.4908E+22

```
Organic I (atoms)      8.2071E+20  0.0000E+00
Aerosols (kg)          1.8307E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6159E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0784E-05
Total I (Ci)                                   2.5357E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8859E+22
Elemental I (atoms)    0.0000E+00  3.9088E+18
Organic I (atoms)      0.0000E+00  4.8313E+18
Aerosols (kg)          0.0000E+00  2.2726E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8859E+22
Elemental I (atoms)    0.0000E+00  3.9088E+18
Organic I (atoms)      0.0000E+00  4.8313E+18
Aerosols (kg)          0.0000E+00  2.2726E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4543E+22
Elemental I (atoms)    0.0000E+00  1.9568E+18
Organic I (atoms)      0.0000E+00  2.4216E+18
Aerosols (kg)          0.0000E+00  1.1365E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1917E+26
Elemental I (atoms)    0.0000E+00  2.0030E+22
Organic I (atoms)      0.0000E+00  2.8022E+22
Aerosols (kg)          0.0000E+00  1.0346E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0780E+26
Elemental I (atoms)    0.0000E+00  1.9614E+22
Organic I (atoms)      0.0000E+00  2.7339E+22
Aerosols (kg)          0.0000E+00  1.0239E+01
```

Environment Integral Nuclide Release:

```
Time (h) =  24.0000       Ci           kg         Atoms         Bq
Co-58                  8.1701E-03  2.5694E-10  2.6678E+15  3.0229E+08
Co-60                  9.8119E-03  8.6802E-09  8.7122E+16  3.6304E+08
Kr-85                  8.8298E+03  2.2506E-02  1.5945E+23  3.2670E+14
Kr-85m                 2.3352E+04  2.8376E-06  2.0104E+19  8.6403E+14
Kr-87                  5.7189E+03  2.0190E-07  1.3975E+18  2.1160E+14
Kr-88                  3.3458E+04  2.6683E-06  1.8260E+19  1.2379E+15
Rb-86                  2.6532E-01  3.2608E-09  2.2834E+16  9.8170E+09
Sr-89                  1.1067E+01  3.8094E-07  2.5776E+18  4.0949E+11
Sr-90                  1.7494E+00  1.2825E-05  8.5816E+19  6.4729E+10
Sr-91                  8.3128E+00  2.2932E-09  1.5176E+16  3.0757E+11
Sr-92                  3.9393E+00  3.1340E-10  2.0515E+15  1.4575E+11
Y-90                   1.4685E-01  2.6991E-10  1.8060E+15  5.4334E+09
Y-91                   1.5576E-01  6.3514E-09  4.2032E+16  5.7631E+09
```

Y-92	2.0856E+00	2.1674E-10	1.4187E+15	7.7166E+10
Y-93	6.9173E-02	2.0733E-11	1.3426E+14	2.5594E+09
Zr-95	2.0401E-01	9.4964E-09	6.0199E+16	7.5484E+09
Zr-97	1.4441E-01	7.5539E-11	4.6897E+14	5.3430E+09
Nb-95	2.0479E-01	5.2373E-09	3.3200E+16	7.5774E+09
Mo-99	2.4560E+00	5.1208E-09	3.1150E+16	9.0873E+10
Tc-99m	2.2952E+00	4.3650E-10	2.6552E+15	8.4924E+10
Ru-103	2.2965E+00	7.1157E-08	4.1604E+17	8.4971E+10
Ru-105	6.2558E-01	9.3065E-11	5.3376E+14	2.3147E+10
Ru-106	1.0074E+00	3.0111E-07	1.7107E+18	3.7273E+10
Rh-105	1.3992E+00	1.6577E-09	9.5077E+15	5.1771E+10
Sb-127	2.3913E+00	8.9543E-09	4.2460E+16	8.8477E+10
Sb-129	3.5141E+00	6.2491E-10	2.9173E+15	1.3002E+11
Te-127	2.4884E+00	9.4290E-10	4.4711E+15	9.2071E+10
Te-127m	4.3381E-01	4.5991E-08	2.1808E+17	1.6051E+10
Te-129	4.8367E+00	2.3095E-10	1.0782E+15	1.7896E+11
Te-129m	1.7785E+00	5.9037E-08	2.7560E+17	6.5804E+10
Te-131m	4.7957E+00	6.0141E-09	2.7647E+16	1.7744E+11
Te-132	3.7920E+01	1.2490E-07	5.6984E+17	1.4030E+12
I-131	5.3662E+02	4.3285E-06	1.9898E+19	1.9855E+13
I-132	2.4513E+02	2.3748E-08	1.0834E+17	9.0696E+12
I-133	8.1028E+02	7.1528E-07	3.2387E+18	2.9980E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.2849E+02	1.2201E-07	5.4428E+17	1.5854E+13
Xe-133	9.5494E+05	5.1017E-03	2.3100E+22	3.5333E+16
Xe-135	1.6256E+05	6.3656E-05	2.8396E+20	6.0147E+15
Cs-134	3.5388E+01	2.7352E-05	1.2292E+20	1.3094E+12
Cs-136	9.4963E+00	1.2957E-07	5.7374E+17	3.5136E+11
Cs-137	2.8074E+01	3.2276E-04	1.4187E+21	1.0387E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	2.0502E+01	2.8004E-07	1.2046E+18	7.5856E+11
La-140	2.5296E+00	4.5511E-09	1.9577E+16	9.3597E+10
La-141	6.7505E-02	1.1936E-11	5.0981E+13	2.4977E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	4.7725E-01	1.6750E-08	7.1538E+16	1.7658E+10
Ce-143	3.7679E-01	5.6738E-10	2.3894E+15	1.3941E+10
Ce-144	4.1211E-01	1.2921E-07	5.4036E+17	1.5248E+10
Pr-143	1.7672E-01	2.6243E-09	1.1052E+16	6.5386E+09
Nd-147	7.5494E-02	9.3319E-10	3.8230E+15	2.7933E+09
Np-239	5.0981E+00	2.1975E-08	5.5371E+16	1.8863E+11
Pu-238	1.4792E-03	8.6406E-08	2.1863E+17	5.4732E+07
Pu-239	1.3989E-04	2.2507E-06	5.6710E+18	5.1760E+06
Pu-240	2.5602E-04	1.1236E-06	2.8193E+18	9.4728E+06
Pu-241	5.6534E-02	5.4881E-07	1.3714E+18	2.0918E+09
Am-241	3.7204E-05	1.0840E-08	2.7087E+16	1.3766E+06
Cm-242	9.4297E-03	2.8452E-09	7.0801E+15	3.4890E+08
Cm-244	5.4900E-04	6.7860E-09	1.6748E+16	2.0313E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.8287E+23	2.1166E+18	
Elemental I (atoms)	6.9607E+18	8.0563E+13	
Organic I (atoms)	9.7528E+18	1.1288E+14	
Aerosols (kg)	3.7014E-04	4.2840E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.8542E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			7.9874E+02
Total I (Ci)			2.0820E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6016E+22
Elemental I (atoms)	2.7690E+17	3.1561E+18
Organic I (atoms)	0.0000E+00	4.0816E+18

```
Aerosols (kg)          1.8757E-03  2.6014E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5885E+22
Elemental I (atoms)    5.6897E+17  2.6889E+18
Organic I (atoms)      0.0000E+00  4.0686E+18
Aerosols (kg)          3.9830E-04  9.8209E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1060E+22
Elemental I (atoms)    2.5071E+17  1.1418E+18
Organic I (atoms)      0.0000E+00  1.6511E+18
Aerosols (kg)          9.5766E-05  1.1800E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0535E+19
Elemental I (atoms)    4.3521E+15  1.4452E+14
Organic I (atoms)      4.9283E+15  5.7778E+13
Aerosols (kg)          2.6645E-07  1.4109E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9935E+19
Elemental I (atoms)    0.0000E+00  1.1475E+15
Organic I (atoms)      0.0000E+00  1.1070E+15
Aerosols (kg)          0.0000E+00  7.9821E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.0777E+20  0.0000E+00
Elemental I (atoms)    1.2707E+15  0.0000E+00
Organic I (atoms)      1.1330E+15  0.0000E+00
Aerosols (kg)          9.3539E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0044E+00  2.2660E+01  1.8637E+00
Accumulated dose (rem)  8.0587E+00  8.9040E+01  1.1630E+01

Low Population Zone Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0805E-02  1.6018E-01  1.6879E-02
Accumulated dose (rem)  2.9484E-01  2.3833E+00  3.9767E-01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9617E-02  3.2350E+00  1.5211E-01
Accumulated dose (rem)  7.9176E-01  4.4825E+01  2.6759E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.1384E+05	2.0743E+00	1.4696E+25	5.1218E+21
Kr-85m	7.2147E+03	8.7668E-07	6.2112E+18	9.0534E+21
Kr-87	1.0544E-04	3.7225E-15	2.5767E+10	3.5780E+21
Kr-88	2.7569E+02	2.1986E-08	1.5046E+17	1.4687E+22
Rb-86	1.2183E+02	1.4973E-06	1.0485E+19	1.1419E+18
Sr-89	6.2321E+03	2.1451E-04	1.4515E+21	5.2604E+19
Sr-90	1.0074E+03	7.3853E-03	4.9417E+22	8.3632E+18
Sr-91	2.4483E+02	6.7541E-08	4.4697E+17	2.8312E+19
Sr-92	4.0054E-02	3.1866E-12	2.0859E+13	1.5983E+19
Y-90	4.0634E+02	7.4687E-07	4.9975E+18	1.3915E+18
Y-91	1.0042E+02	4.0948E-06	2.7098E+19	7.7101E+17
Y-92	2.1087E+00	2.1915E-10	1.4345E+15	3.4736E+18
Y-93	2.4433E+00	7.3233E-10	4.7421E+15	2.3663E+17
Zr-95	1.1543E+02	5.3729E-06	3.4059E+19	9.7087E+17
Zr-97	1.6013E+01	8.3766E-09	5.2005E+16	5.2610E+17
Nb-95	1.1786E+02	3.0141E-06	1.9107E+19	9.7865E+17
Mo-99	9.3391E+02	1.9472E-06	1.1845E+19	1.0666E+19
Tc-99m	9.5574E+02	1.8176E-07	1.1056E+18	9.9173E+18
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.1984E-01	7.7334E-11	4.4354E+14	2.2235E+18
Ru-106	5.7838E+02	1.7288E-04	9.8217E+20	4.8121E+18
Rh-105	3.9363E+02	4.6636E-07	2.6748E+18	5.7244E+18
Sb-127	1.0243E+03	3.8356E-06	1.8188E+19	1.0651E+19
Sb-129	2.4163E+00	4.2969E-10	2.0059E+15	1.2556E+19
Te-127	1.2160E+03	4.6075E-07	2.1848E+18	1.1237E+19
Te-127m	2.4948E+02	2.6449E-05	1.2542E+20	2.0732E+18
Te-129	8.6166E+02	4.1144E-08	1.9208E+17	1.7337E+19
Te-129m	9.9254E+02	3.2947E-05	1.5381E+20	8.4339E+18
Te-131m	1.1011E+03	1.3809E-06	6.3479E+18	1.9042E+19
Te-132	1.5389E+04	5.0690E-05	2.3126E+20	1.6694E+20
I-131	9.6725E+04	7.8020E-04	3.5866E+21	8.7405E+20
I-132	1.8368E+04	1.7795E-06	8.1185E+18	4.9741E+20
I-133	4.7769E+04	4.2169E-05	1.9094E+20	1.1516E+21
I-135	1.4669E+03	4.1769E-07	1.8632E+18	6.3230E+20
Xe-133	7.3035E+07	3.9018E-01	1.7667E+24	5.2459E+23
Xe-135	1.0202E+06	3.9950E-04	1.7821E+21	6.2412E+22
Cs-134	1.7266E+04	1.3345E-02	5.9973E+22	1.5451E+20
Cs-136	4.2466E+03	5.7942E-05	2.5657E+20	4.0620E+19
Cs-137	1.3717E+04	1.5770E-01	6.9320E+23	1.2262E+20
Ba-139	3.9303E-07	2.4029E-17	1.0410E+08	1.4774E+19
Ba-140	1.0800E+04	1.4752E-04	6.3456E+20	9.5832E+19
La-140	6.3280E+03	1.1385E-05	4.8972E+19	2.2861E+19
La-141	2.3108E-02	4.0860E-12	1.7451E+13	2.4611E+17
La-142	4.5500E-08	3.1785E-18	1.3480E+07	1.4327E+17
Ce-141	2.6563E+02	9.3225E-06	3.9817E+19	2.2618E+18
Ce-143	9.4145E+01	1.4177E-07	5.9702E+17	1.5158E+18
Ce-144	2.3639E+02	7.4116E-05	3.0996E+20	1.9681E+18
Pr-143	1.0544E+02	1.5658E-06	6.5942E+18	8.5410E+17
Nd-147	3.9203E+01	4.8459E-07	1.9852E+18	3.5165E+17
Np-239	1.8073E+03	7.7904E-06	1.9630E+19	2.1829E+19
Pu-238	8.5207E-01	4.9771E-05	1.2594E+20	7.0721E+15
Pu-239	8.0868E-02	1.3010E-03	3.2782E+21	6.6944E+14
Pu-240	1.4745E-01	6.4707E-04	1.6236E+21	1.2239E+15
Pu-241	3.2551E+01	3.1599E-04	7.8961E+20	2.7025E+17
Am-241	2.1659E-02	6.3106E-06	1.5769E+19	1.7834E+14
Cm-242	5.3929E+00	1.6272E-06	4.0492E+18	4.4999E+16
Cm-244	3.1612E-01	3.9074E-06	9.6439E+18	2.6245E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6465E+25	0.0000E+00
Elemental I (atoms)	4.0887E+20	5.4908E+22
Organic I (atoms)	7.0953E+20	0.0000E+00
Aerosols (kg)	1.8221E-01	5.2582E+01

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Dose Effective (Ci/cc) I-131 (Thyroid)         3.8968E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.0994E-05
Total I (Ci)                                   1.6433E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3297E+23
Elemental I (atoms)    0.0000E+00  5.0756E+18
Organic I (atoms)      0.0000E+00  6.8560E+18
Aerosols (kg)          0.0000E+00  2.7571E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3297E+23
Elemental I (atoms)    0.0000E+00  5.0756E+18
Organic I (atoms)      0.0000E+00  6.8560E+18
Aerosols (kg)          0.0000E+00  2.7571E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.6473E+22
Elemental I (atoms)    0.0000E+00  2.5368E+18
Organic I (atoms)      0.0000E+00  3.4282E+18
Aerosols (kg)          0.0000E+00  1.3774E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0485E+27
Elemental I (atoms)    0.0000E+00  3.4031E+22
Organic I (atoms)      0.0000E+00  5.2318E+22
Aerosols (kg)          0.0000E+00  1.6160E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0372E+27
Elemental I (atoms)    0.0000E+00  3.3616E+22
Organic I (atoms)      0.0000E+00  5.1636E+22
Aerosols (kg)          0.0000E+00  1.6053E+01

Environment Integral Nuclide Release:

Time (h) =  48.0000       Ci           kg          Atoms         Bq
Co-58                  1.0325E-02  3.2471E-10  3.3715E+15  3.8203E+08
Co-60                  1.2429E-02  1.0995E-08  1.1036E+17  4.5986E+08
Kr-85                  1.4229E+04  3.6268E-02  2.5695E+23  5.2648E+14
Kr-85m                 2.3828E+04  2.8955E-06  2.0514E+19  8.8165E+14
Kr-87                  5.7189E+03  2.0190E-07  1.3975E+18  2.1160E+14
Kr-88                  3.3554E+04  2.6759E-06  1.8312E+19  1.2415E+15
Rb-86                  3.2282E-01  3.9674E-09  2.7782E+16  1.1944E+10
Sr-89                  1.3973E+01  4.8098E-07  3.2545E+18  5.1702E+11
Sr-90                  2.2161E+00  1.6247E-05  1.0871E+20  8.1997E+10
Sr-91                  8.6104E+00  2.3753E-09  1.5719E+16  3.1858E+11
Sr-92                  3.9405E+00  3.1350E-10  2.0521E+15  1.4580E+11
Y-90                   2.9687E-01  5.4566E-10  3.6512E+15  1.0984E+10
Y-91                   2.0202E-01  8.2378E-09  5.4515E+16  7.4748E+09
Y-92                   2.1031E+00  2.1856E-10  1.4307E+15  7.7813E+10
Y-93                   7.1959E-02  2.1568E-11  1.3966E+14  2.6625E+09
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Zr-95	2.5776E-01	1.1998E-08	7.6059E+16	9.5372E+09
Zr-97	1.5679E-01	8.2016E-11	5.0919E+14	5.8011E+09
Nb-95	2.5941E-01	6.6340E-09	4.2053E+16	9.5981E+09
Mo-99	2.9456E+00	6.1416E-09	3.7359E+16	1.0899E+11
Tc-99m	2.7930E+00	5.3117E-10	3.2311E+15	1.0334E+11
Ru-103	2.8968E+00	8.9758E-08	5.2479E+17	1.0718E+11
Ru-105	6.2805E-01	9.3431E-11	5.3586E+14	2.3238E+10
Ru-106	1.2756E+00	3.8127E-07	2.1661E+18	4.7196E+10
Rh-105	1.6296E+00	1.9306E-09	1.1073E+16	6.0293E+10
Sb-127	2.9093E+00	1.0894E-08	5.1658E+16	1.0764E+11
Sb-129	3.5265E+00	6.2711E-10	2.9275E+15	1.3048E+11
Te-127	3.0872E+00	1.1698E-09	5.5470E+15	1.1423E+11
Te-127m	5.4946E-01	5.8252E-08	2.7622E+17	2.0330E+10
Te-129	5.2556E+00	2.5096E-10	1.1715E+15	1.9446E+11
Te-129m	2.2429E+00	7.4451E-08	3.4756E+17	8.2986E+10
Te-131m	5.4698E+00	6.8595E-09	3.1533E+16	2.0238E+11
Te-132	4.5830E+01	1.5096E-07	6.8871E+17	1.6957E+12
I-131	7.4594E+02	6.0169E-06	2.7660E+19	2.7600E+13
I-132	2.7562E+02	2.6702E-08	1.2182E+17	1.0198E+13
I-133	9.5976E+02	8.4724E-07	3.8362E+18	3.5511E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4158E+02	1.2574E-07	5.6090E+17	1.6338E+13
Xe-133	1.4715E+06	7.8611E-03	3.5594E+22	5.4444E+16
Xe-135	1.8115E+05	7.0934E-05	3.1642E+20	6.7024E+15
Cs-134	4.3395E+01	3.3540E-05	1.5073E+20	1.6056E+12
Cs-136	1.1516E+01	1.5712E-07	6.9575E+17	4.2608E+11
Cs-137	3.4433E+01	3.9586E-04	1.7401E+21	1.2740E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	2.5638E+01	3.5020E-07	1.5064E+18	9.4860E+11
La-140	4.9593E+00	8.9223E-09	3.8380E+16	1.8349E+11
La-141	6.7662E-02	1.1964E-11	5.1100E+13	2.5035E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	6.0158E-01	2.1113E-08	9.0173E+16	2.2258E+10
Ce-143	4.3292E-01	6.5191E-10	2.7454E+15	1.6018E+10
Ce-144	5.2175E-01	1.6358E-07	6.8412E+17	1.9305E+10
Pr-143	2.2549E-01	3.3486E-09	1.4102E+16	8.3432E+09
Nd-147	9.4216E-02	1.1646E-09	4.7711E+15	3.4860E+09
Np-239	6.0658E+00	2.6147E-08	6.5882E+16	2.2443E+11
Pu-238	1.8740E-03	1.0946E-07	2.7697E+17	6.9336E+07
Pu-239	1.7732E-04	2.8528E-06	7.1883E+18	6.5609E+06
Pu-240	3.2433E-04	1.4233E-06	3.5714E+18	1.2000E+07
Pu-241	7.1615E-02	6.9520E-07	1.7372E+18	2.6498E+09
Am-241	4.7206E-05	1.3754E-08	3.4369E+16	1.7466E+06
Cm-242	1.1933E-02	3.6005E-09	8.9598E+15	4.4153E+08
Cm-244	6.9546E-04	8.5962E-09	2.1216E+16	2.5732E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.9290E+23	1.6950E+18
Elemental I (atoms)	9.0104E+18	5.2144E+13
Organic I (atoms)	1.4773E+19	8.5490E+13
Aerosols (kg)	4.5463E-04	2.6310E-09
Dose Effective (Ci) I-131 (Thyroid)		9.2018E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.0502E+03
Total I (Ci)		2.4844E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2012E+23
Elemental I (atoms)	4.6004E+17	4.1402E+18
Organic I (atoms)	0.0000E+00	6.1058E+18
Aerosols (kg)	2.3022E-03	3.1930E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2000E+23
Elemental I (atoms)	9.0976E+17	3.4045E+18
Organic I (atoms)	0.0000E+00	6.0924E+18
Aerosols (kg)	4.8870E-04	1.2050E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2944E+22
Elemental I (atoms)	4.2364E+17	1.5049E+18
Organic I (atoms)	0.0000E+00	2.6549E+18
Aerosols (kg)	1.2048E-04	1.4845E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1822E+20
Elemental I (atoms)	4.8657E+15	1.4970E+14
Organic I (atoms)	6.1859E+15	7.0481E+13
Aerosols (kg)	2.8748E-07	1.4322E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6010E+19
Elemental I (atoms)	0.0000E+00	1.2614E+15
Organic I (atoms)	0.0000E+00	1.3857E+15
Aerosols (kg)	0.0000E+00	8.4483E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.4318E+20	0.0000E+00
Elemental I (atoms)	1.3974E+15	0.0000E+00
Organic I (atoms)	1.4396E+15	0.0000E+00
Aerosols (kg)	9.8655E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0346E-01	1.8027E+01	1.4167E+00
Accumulated dose (rem)	8.7622E+00	1.0707E+02	1.3047E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.5671E-03	1.2743E-01	1.2609E-02
Accumulated dose (rem)	3.0240E-01	2.5108E+00	4.1027E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9148E-02	2.4065E+00	1.1430E-01
Accumulated dose (rem)	8.1091E-01	4.7232E+01	2.7902E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.1046E+05	2.0657E+00	1.4635E+25	7.7179E+21
Kr-85m	1.7532E+02	2.1304E-08	1.5093E+17	9.0594E+21
Kr-87	2.1877E-10	7.7234E-21	5.3462E+04	3.5780E+21
Kr-88	7.8484E-01	6.2591E-11	4.2833E+14	1.4687E+22
Rb-86	1.1692E+02	1.4369E-06	1.0062E+19	1.5234E+18
Sr-89	6.1227E+03	2.1075E-04	1.4260E+21	7.2350E+19
Sr-90	1.0033E+03	7.3554E-03	4.9217E+22	1.1577E+19
Sr-91	4.2330E+01	1.1677E-08	7.7277E+16	2.8681E+19
Sr-92	8.6093E-05	6.8494E-15	4.4835E+10	1.5983E+19
Y-90	5.4300E+02	9.9804E-07	6.6782E+18	2.9013E+18
Y-91	9.9412E+01	4.0537E-06	2.6826E+19	1.0906E+18
Y-92	2.0116E-02	2.0906E-12	1.3685E+13	3.4751E+18
Y-93	4.6873E-01	1.4049E-10	9.0976E+14	2.4045E+17
Zr-95	1.1373E+02	5.2939E-06	3.3558E+19	1.3371E+18
Zr-97	5.9601E+00	3.1177E-09	1.9356E+16	5.5861E+17
Nb-95	1.1731E+02	3.0000E-06	1.9018E+19	1.3544E+18
Mo-99	7.2295E+02	1.5074E-06	9.1692E+18	1.3300E+19
Tc-99m	7.4109E+02	1.4094E-07	8.5733E+17	1.2479E+19
Ru-103	1.2574E+03	3.8961E-05	2.2779E+20	1.4961E+19
Ru-105	1.2217E-02	1.8174E-12	1.0424E+13	2.2239E+18
Ru-106	5.7499E+02	1.7187E-04	9.7642E+20	6.6555E+18
Rh-105	2.4498E+02	2.9024E-07	1.6646E+18	6.7264E+18
Sb-127	8.5214E+02	3.1909E-06	1.5131E+19	1.3642E+19
Sb-129	5.1172E-02	9.0998E-12	4.2481E+13	1.2558E+19
Te-127	1.0578E+03	4.0081E-07	1.9006E+18	1.4744E+19
Te-127m	2.4798E+02	2.6290E-05	1.2466E+20	2.8682E+18
Te-129	8.3746E+02	3.9989E-08	1.8668E+17	1.9380E+19
Te-129m	9.6841E+02	3.2146E-05	1.5007E+20	1.1568E+19
Te-131m	6.2991E+02	7.8995E-07	3.6314E+18	2.1738E+19
Te-132	1.2391E+04	4.0813E-05	1.8620E+20	2.1117E+20
I-131	8.8437E+04	7.1335E-04	3.2793E+21	1.1698E+21
I-132	1.4789E+04	1.4328E-06	6.5367E+18	5.4319E+20
I-133	2.1383E+04	1.8876E-05	8.5471E+19	1.2566E+21
I-135	1.1794E+02	3.3583E-08	1.4981E+17	6.3401E+20
Xe-133	6.3744E+07	3.4054E-01	1.5420E+24	7.4287E+23
Xe-135	1.6326E+05	6.3931E-05	2.8519E+20	6.3907E+22
Cs-134	1.7181E+04	1.3280E-02	5.9680E+22	2.0956E+20
Cs-136	4.0118E+03	5.4738E-05	2.4238E+20	5.3816E+19
Cs-137	1.3662E+04	1.5706E-01	6.9040E+23	1.6637E+20
Ba-140	1.0187E+04	1.3915E-04	5.9857E+20	1.2937E+20
La-140	7.7367E+03	1.3919E-05	5.9874E+19	4.5274E+19
La-141	3.3395E-04	5.9049E-14	2.5220E+11	2.4613E+17
Ce-141	2.5899E+02	9.0895E-06	3.8822E+19	3.1002E+18
Ce-143	5.6642E+01	8.5293E-08	3.5919E+17	1.7518E+18
Ce-144	2.3488E+02	7.3642E-05	3.0797E+20	2.7213E+18
Pr-143	1.0346E+02	1.5363E-06	6.4700E+18	1.1882E+18
Nd-147	3.6658E+01	4.5313E-07	1.8564E+18	4.7285E+17
Np-239	1.3411E+03	5.7810E-06	1.4567E+19	2.6824E+19
Pu-238	8.4878E-01	4.9579E-05	1.2545E+20	9.7905E+15
Pu-239	8.0669E-02	1.2978E-03	3.2702E+21	9.2762E+14
Pu-240	1.4686E-01	6.4450E-04	1.6172E+21	1.6943E+15
Pu-241	3.2418E+01	3.1470E-04	7.8637E+20	3.7409E+17
Am-241	2.1715E-02	6.3270E-06	1.5810E+19	2.4766E+14
Cm-242	5.3486E+00	1.6138E-06	4.0159E+18	6.2167E+16
Cm-244	3.1483E-01	3.8915E-06	9.6045E+18	3.6329E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6178E+25	0.0000E+00	
Elemental I (atoms)	3.6396E+20	5.4908E+22	
Organic I (atoms)	6.3159E+20	0.0000E+00	
Aerosols (kg)	1.8138E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4232E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5202E-05
Total I (Ci)			1.2473E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7999E+22
Elemental I (atoms)	0.0000E+00	3.0463E+18
Organic I (atoms)	0.0000E+00	4.3122E+18
Aerosols (kg)	0.0000E+00	1.6171E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5681E+27
Elemental I (atoms)	0.0000E+00	4.6327E+22
Organic I (atoms)	0.0000E+00	7.3656E+22
Aerosols (kg)	0.0000E+00	2.1947E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5568E+27
Elemental I (atoms)	0.0000E+00	4.5913E+22
Organic I (atoms)	0.0000E+00	7.2976E+22
Aerosols (kg)	0.0000E+00	2.1841E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	1.9616E+04	4.9997E-02	3.5422E+23	7.2578E+14
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8208E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	3.7787E-01	4.6440E-09	3.2520E+16	1.3981E+10
Sr-89	1.6824E+01	5.7910E-07	3.9184E+18	6.2249E+11
Sr-90	2.6802E+00	1.9649E-05	1.3147E+20	9.9168E+10
Sr-91	8.6617E+00	2.3894E-09	1.5813E+16	3.2048E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	5.1874E-01	9.5345E-10	6.3798E+15	1.9193E+10
Y-91	2.4817E-01	1.0120E-08	6.6970E+16	9.1825E+09
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2492E-02	2.1728E-11	1.4070E+14	2.6822E+09
Zr-95	3.1064E-01	1.4460E-08	9.1662E+16	1.1494E+10
Zr-97	1.6139E-01	8.4422E-11	5.2412E+14	5.9713E+09
Nb-95	3.1369E-01	8.0220E-09	5.0852E+16	1.1606E+10
Mo-99	3.3239E+00	6.9304E-09	4.2157E+16	1.2299E+11

Tc-99m	3.1807E+00	6.0489E-10	3.6795E+15	1.1768E+11
Ru-103	3.4834E+00	1.0793E-07	6.3105E+17	1.2888E+11
Ru-105	6.2810E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	1.5418E+00	4.6084E-07	2.6181E+18	5.7045E+10
Rh-105	1.7728E+00	2.1004E-09	1.2046E+16	6.5595E+10
Sb-127	3.3395E+00	1.2505E-08	5.9298E+16	1.2356E+11
Sb-129	3.5267E+00	6.2715E-10	2.9278E+15	1.3049E+11
Te-127	3.6098E+00	1.3678E-09	6.4859E+15	1.3356E+11
Te-127m	6.6428E-01	7.0424E-08	3.3394E+17	2.4578E+10
Te-129	5.6471E+00	2.6965E-10	1.2588E+15	2.0894E+11
Te-129m	2.6952E+00	8.9468E-08	4.1766E+17	9.9724E+10
Te-131m	5.8548E+00	7.3423E-09	3.3753E+16	2.1663E+11
Te-132	5.2189E+01	1.7190E-07	7.8426E+17	1.9310E+12
I-131	9.2250E+02	7.4410E-06	3.4207E+19	3.4132E+13
I-132	2.9845E+02	2.8914E-08	1.3191E+17	1.1043E+13
I-133	1.0215E+03	9.0174E-07	4.0830E+18	3.7795E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4255E+02	1.2602E-07	5.6214E+17	1.6374E+13
Xe-133	1.9231E+06	1.0274E-02	4.6520E+22	7.1155E+16
Xe-135	1.8413E+05	7.2103E-05	3.2164E+20	6.8128E+15
Cs-134	5.1346E+01	3.9685E-05	1.7835E+20	1.8998E+12
Cs-136	1.3419E+01	1.8310E-07	8.1075E+17	4.9651E+11
Cs-137	4.0752E+01	4.6851E-04	2.0594E+21	1.5078E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	3.0475E+01	4.1627E-07	1.7906E+18	1.1276E+12
La-140	8.2515E+00	1.4845E-08	6.3858E+16	3.0530E+11
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	7.2260E-01	2.5360E-08	1.0831E+17	2.6736E+10
Ce-143	4.6664E-01	7.0268E-10	2.9592E+15	1.7266E+10
Ce-144	6.3051E-01	1.9769E-07	8.2673E+17	2.3329E+10
Pr-143	2.7376E-01	4.0654E-09	1.7121E+16	1.0129E+10
Nd-147	1.1170E-01	1.3807E-09	5.6562E+15	4.1327E+09
Np-239	6.7827E+00	2.9237E-08	7.3669E+16	2.5096E+11
Pu-238	2.2665E-03	1.3239E-07	3.3499E+17	8.3861E+07
Pu-239	2.1461E-04	3.4527E-06	8.6998E+18	7.9404E+06
Pu-240	3.9225E-04	1.7214E-06	4.3194E+18	1.4513E+07
Pu-241	8.6610E-02	8.4077E-07	2.1009E+18	3.2046E+09
Am-241	5.7219E-05	1.6671E-08	4.1658E+16	2.1171E+06
Cm-242	1.4412E-02	4.3484E-09	1.0821E+16	5.3325E+08
Cm-244	8.4108E-04	1.0396E-08	2.5659E+16	3.1120E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.0110E+23	1.5475E+18
Elemental I (atoms)	1.0235E+19	3.9486E+13
Organic I (atoms)	1.9195E+19	7.4055E+13
Aerosols (kg)	5.3855E-04	2.0777E-09

Dose Effective (Ci) I-131 (Thyroid)	1.1072E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.2442E+03
Total I (Ci)	2.7465E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6347E+23
Elemental I (atoms)	7.8358E+17	4.8425E+18
Organic I (atoms)	0.0000E+00	7.8859E+18
Aerosols (kg)	2.7262E-03	3.7810E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

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Noble gases (atoms)    0.0000E+00  1.6335E+23
Elemental I (atoms)    1.3844E+18  3.7543E+18
Organic I (atoms)      0.0000E+00  7.8720E+18
Aerosols (kg)          5.7875E-04  1.4270E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4512E+22
Elemental I (atoms)    6.6563E+17  1.6833E+18
Organic I (atoms)      0.0000E+00  3.5399E+18
Aerosols (kg)          1.4412E-04  1.7758E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4544E+20
Elemental I (atoms)    5.1720E+15  1.5280E+14
Organic I (atoms)      7.2923E+15  8.1657E+13
Aerosols (kg)          3.0837E-07  1.4533E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1984E+19
Elemental I (atoms)    0.0000E+00  1.3292E+15
Organic I (atoms)      0.0000E+00  1.6310E+15
Aerosols (kg)          0.0000E+00  8.9114E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    1.7638E+20  0.0000E+00
Elemental I (atoms)    1.4692E+15  0.0000E+00
Organic I (atoms)      1.6960E+15  0.0000E+00
Aerosols (kg)          1.0350E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.8746E-01  1.4724E+01  1.1976E+00
Accumulated dose (rem)  9.3496E+00  1.2179E+02  1.4245E+01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.3193E-03  1.0408E-01  1.0632E-02
Accumulated dose (rem)  3.0872E-01  2.6148E+00  4.2091E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6009E-02  1.9657E+00  9.7398E-02
Accumulated dose (rem)  8.2692E-01  4.9198E+01  2.8875E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.5046E+00  1.4166E-07  1.4709E+18  6.8096E+16
Co-60                  5.5986E+00  4.9528E-06  4.9711E+19  8.2848E+16
Kr-85                  8.0709E+05  2.0572E+00  1.4575E+25  1.0303E+22
Kr-85m                 4.2603E+00  5.1768E-10  3.6677E+15  9.0596E+21
Kr-88                  2.2343E-03  1.7818E-13  1.2194E+12  1.4687E+22
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Rb-86	1.1221E+02	1.3790E-06	9.6567E+18	1.8896E+18
Sr-89	6.0152E+03	2.0705E-04	1.4010E+21	9.1749E+19
Sr-90	9.9928E+02	7.3257E-03	4.9018E+22	1.4778E+19
Sr-91	7.3184E+00	2.0189E-09	1.3360E+16	2.8745E+19
Sr-92	1.8505E-07	1.4722E-17	9.6369E+07	1.5983E+19
Y-90	6.4702E+02	1.1892E-06	7.9575E+18	4.7935E+18
Y-91	9.7949E+01	3.9940E-06	2.6432E+19	1.4061E+18
Y-92	1.8451E-04	1.9176E-14	1.2552E+11	3.4751E+18
Y-93	8.9925E-02	2.6953E-11	1.7453E+14	2.4119E+17
Zr-95	1.1206E+02	5.2160E-06	3.3065E+19	1.6980E+18
Zr-97	2.2183E+00	1.1604E-09	7.2043E+15	5.7071E+17
Nb-95	1.1674E+02	2.9855E-06	1.8925E+19	1.7283E+18
Mo-99	5.5965E+02	1.1669E-06	7.0980E+18	1.5338E+19
Tc-99m	5.7377E+02	1.0912E-07	6.6376E+17	1.4464E+19
Ru-103	1.2305E+03	3.8127E-05	2.2292E+20	1.8937E+19
Ru-105	2.8710E-04	4.2710E-14	2.4496E+11	2.2239E+18
Ru-106	5.7163E+02	1.7086E-04	9.7071E+20	8.4881E+18
Rh-105	1.5243E+02	1.8060E-07	1.0358E+18	7.3499E+18
Sb-127	7.0891E+02	2.6546E-06	1.2588E+19	1.6130E+19
Sb-129	1.0837E-03	1.9271E-13	8.9965E+11	1.2558E+19
Te-127	9.2164E+02	3.4923E-07	1.6560E+18	1.7796E+19
Te-127m	2.4631E+02	2.6113E-05	1.2382E+20	3.6582E+18
Te-129	8.1703E+02	3.9014E-08	1.8213E+17	2.1372E+19
Te-129m	9.4487E+02	3.1365E-05	1.4642E+20	1.4626E+19
Te-131m	3.6035E+02	4.5190E-07	2.0774E+18	2.3281E+19
Te-132	9.9764E+03	3.2861E-05	1.4992E+20	2.4678E+20
I-131	8.0841E+04	6.5207E-04	2.9976E+21	1.4402E+21
I-132	1.1908E+04	1.1536E-06	5.2631E+18	5.8004E+20
I-133	9.5720E+03	8.4498E-06	3.8260E+19	1.3035E+21
I-135	9.4827E+00	2.7002E-09	1.2045E+16	6.3415E+20
Xe-133	5.5632E+07	2.9721E-01	1.3457E+24	9.3337E+23
Xe-135	2.6105E+04	1.0222E-05	4.5600E+19	6.4146E+22
Cs-134	1.7097E+04	1.3215E-02	5.9388E+22	2.6435E+20
Cs-136	3.7899E+03	5.1710E-05	2.2897E+20	6.6282E+19
Cs-137	1.3606E+04	1.5643E-01	6.8761E+23	2.0995E+20
Ba-140	9.6094E+03	1.3126E-04	5.6462E+20	1.6100E+20
La-140	8.4627E+03	1.5225E-05	6.5492E+19	7.1036E+19
La-141	4.8261E-06	8.5336E-16	3.6447E+09	2.4613E+17
Ce-141	2.5252E+02	8.8624E-06	3.7851E+19	3.9177E+18
Ce-143	3.4078E+01	5.1316E-08	2.1611E+17	1.8937E+18
Ce-144	2.3338E+02	7.3170E-05	3.0600E+20	3.4697E+18
Pr-143	1.0012E+02	1.4867E-06	6.2611E+18	1.5137E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8618E+17
Np-239	9.9522E+02	4.2899E-06	1.0809E+19	3.0530E+19
Pu-238	8.4550E-01	4.9388E-05	1.2497E+20	1.2498E+16
Pu-239	8.0440E-02	1.2942E-03	3.2609E+21	1.1851E+15
Pu-240	1.4628E-01	6.4193E-04	1.6108E+21	2.1628E+15
Pu-241	3.2285E+01	3.1340E-04	7.8314E+20	4.7750E+17
Am-241	2.1771E-02	6.3431E-06	1.5850E+19	3.1715E+14
Cm-242	5.3047E+00	1.6006E-06	3.9830E+18	7.9194E+16
Cm-244	3.1355E-01	3.8756E-06	9.5653E+18	4.6372E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5920E+25	0.0000E+00	
Elemental I (atoms)	3.2830E+20	5.4908E+22	
Organic I (atoms)	5.6971E+20	0.0000E+00	
Aerosols (kg)	1.8056E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.0670E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1162E-05
Total I (Ci)			1.0233E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23

Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23
Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0917E+23
Elemental I (atoms)	0.0000E+00	3.5029E+18
Organic I (atoms)	0.0000E+00	5.1046E+18
Aerosols (kg)	0.0000E+00	1.8558E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0790E+27
Elemental I (atoms)	0.0000E+00	5.7350E+22
Organic I (atoms)	0.0000E+00	9.2784E+22
Aerosols (kg)	0.0000E+00	2.7708E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0678E+27
Elemental I (atoms)	0.0000E+00	5.6937E+22
Organic I (atoms)	0.0000E+00	9.2106E+22
Aerosols (kg)	0.0000E+00	2.7602E+01

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	1.4540E-02	4.5728E-10	4.7479E+15	5.3800E+08
Co-60	1.7619E-02	1.5587E-08	1.5645E+17	6.5191E+08
Kr-85	2.4980E+04	6.3671E-02	4.5110E+23	9.2427E+14
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8209E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	4.3070E-01	5.2933E-09	3.7066E+16	1.5936E+10
Sr-89	1.9624E+01	6.7548E-07	4.5706E+18	7.2609E+11
Sr-90	3.1423E+00	2.3037E-05	1.5414E+20	1.1627E+11
Sr-91	8.6706E+00	2.3919E-09	1.5829E+16	3.2081E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	7.9547E-01	1.4621E-09	9.7833E+15	2.9432E+10
Y-91	2.9371E-01	1.1977E-08	7.9258E+16	1.0867E+10
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2595E-02	2.1759E-11	1.4090E+14	2.6860E+09
Zr-95	3.6273E-01	1.6884E-08	1.0703E+17	1.3421E+10
Zr-97	1.6310E-01	8.5317E-11	5.2968E+14	6.0347E+09
Nb-95	3.6770E-01	9.4033E-09	5.9608E+16	1.3605E+10
Mo-99	3.6168E+00	7.5409E-09	4.5871E+16	1.3382E+11
Tc-99m	3.4809E+00	6.6199E-10	4.0268E+15	1.2879E+11
Ru-103	4.0573E+00	1.2571E-07	7.3501E+17	1.5012E+11
Ru-105	6.2811E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	1.8064E+00	5.3992E-07	3.0674E+18	6.6835E+10
Rh-105	1.8620E+00	2.2060E-09	1.2652E+16	6.8893E+10

Sb-127	3.6974E+00	1.3845E-08	6.5652E+16	1.3680E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	4.0644E+00	1.5401E-09	7.3028E+15	1.5038E+11
Te-127m	7.7834E-01	8.2516E-08	3.9128E+17	2.8799E+10
Te-129	6.0288E+00	2.8787E-10	1.3439E+15	2.2306E+11
Te-129m	3.1366E+00	1.0412E-07	4.8605E+17	1.1605E+11
Te-131m	6.0750E+00	7.6184E-09	3.5022E+16	2.2477E+11
Te-132	5.7307E+01	1.8876E-07	8.6118E+17	2.1204E+12
I-131	1.0710E+03	8.6386E-06	3.9712E+19	3.9626E+13
I-132	3.1557E+02	3.0572E-08	1.3948E+17	1.1676E+13
I-133	1.0469E+03	9.2418E-07	4.1846E+18	3.8736E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4262E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	2.3173E+06	1.2380E-02	5.6056E+22	8.5741E+16
Xe-135	1.8461E+05	7.2290E-05	3.2247E+20	6.8305E+15
Cs-134	5.9256E+01	4.5799E-05	2.0583E+20	2.1925E+12
Cs-136	1.5217E+01	2.0763E-07	9.1938E+17	5.6303E+11
Cs-137	4.7044E+01	5.4085E-04	2.3774E+21	1.7406E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	3.5037E+01	4.7858E-07	2.0586E+18	1.2964E+12
La-140	1.2018E+01	2.1621E-08	9.3005E+16	4.4466E+11
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	8.4058E-01	2.9501E-08	1.2600E+17	3.1101E+10
Ce-143	4.8692E-01	7.3323E-10	3.0878E+15	1.8016E+10
Ce-144	7.3857E-01	2.3156E-07	9.6840E+17	2.7327E+10
Pr-143	3.2075E-01	4.7632E-09	2.0059E+16	1.1868E+10
Nd-147	1.2804E-01	1.5827E-09	6.4838E+15	4.7374E+09
Np-239	7.3146E+00	3.1530E-08	7.9446E+16	2.7064E+11
Pu-238	2.6575E-03	1.5523E-07	3.9278E+17	9.8327E+07
Pu-239	2.5179E-04	4.0509E-06	1.0207E+19	9.3161E+06
Pu-240	4.5990E-04	2.0183E-06	5.0643E+18	1.7016E+07
Pu-241	1.0154E-01	9.8571E-07	2.4631E+18	3.7570E+09
Am-241	6.7255E-05	1.9595E-08	4.8965E+16	2.4884E+06
Cm-242	1.6870E-02	5.0901E-09	1.2667E+16	6.2420E+08
Cm-244	9.8609E-04	1.2189E-08	3.0083E+16	3.6485E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s
Noble gases (atoms)	5.0752E+23	1.4685E+18
Elemental I (atoms)	1.0843E+19	3.1375E+13
Organic I (atoms)	2.3162E+19	6.7021E+13
Aerosols (kg)	6.2207E-04	1.8000E-09
Dose Effective (Ci) I-131 (Thyroid)		1.2600E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.4001E+03
Total I (Ci)		2.9376E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0609E+23
Elemental I (atoms)	1.2666E+18	5.2790E+18
Organic I (atoms)	0.0000E+00	9.4817E+18
Aerosols (kg)	3.1482E-03	4.3664E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0597E+23
Elemental I (atoms)	1.8661E+18	3.8693E+18
Organic I (atoms)	0.0000E+00	9.4674E+18
Aerosols (kg)	6.6838E-04	1.6480E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5729E+22
Elemental I (atoms)	9.1633E+17	1.7431E+18
Organic I (atoms)	0.0000E+00	4.3337E+18
Aerosols (kg)	1.6754E-04	2.0644E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7221E+20
Elemental I (atoms)	5.3241E+15	1.5433E+14
Organic I (atoms)	8.2843E+15	9.1678E+13
Aerosols (kg)	3.2916E-07	1.4743E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7859E+19
Elemental I (atoms)	0.0000E+00	1.3630E+15
Organic I (atoms)	0.0000E+00	1.8509E+15
Aerosols (kg)	0.0000E+00	9.3723E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.0903E+20	0.0000E+00
Elemental I (atoms)	1.5052E+15	0.0000E+00
Organic I (atoms)	1.9259E+15	0.0000E+00
Aerosols (kg)	1.0832E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2282E+00	6.0180E+01	5.0011E+00
Accumulated dose (rem)	1.1578E+01	1.8197E+02	1.9246E+01

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0898E-03	1.0809E-01	1.1070E-02
Accumulated dose (rem)	3.1481E-01	2.7229E+00	4.3198E-01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3430E-02	4.4115E+00	2.3664E-01
Accumulated dose (rem)	8.6035E-01	5.3609E+01	3.1242E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.8720E+05	2.0064E+00	1.4215E+25	2.5591E+22
Kr-85m	8.7719E-10	1.0659E-19	7.5518E+05	9.0596E+21
Rb-86	8.7670E+01	1.0775E-06	7.5449E+18	3.7967E+18
Sr-89	5.4089E+03	1.8618E-04	1.2598E+21	2.0120E+20
Sr-90	9.7530E+02	7.1499E-03	4.7842E+22	3.3712E+19
Sr-91	1.9546E-04	5.3920E-14	3.5683E+11	2.8758E+19
Y-90	9.0737E+02	1.6678E-06	1.1159E+19	2.0287E+19
Y-91	8.9094E+01	3.6329E-06	2.4042E+19	3.1986E+18

Y-93	4.4832E-06	1.3438E-15	8.7014E+09	2.4136E+17
Zr-95	1.0252E+02	4.7723E-06	3.0252E+19	3.7543E+18
Zr-97	5.8974E-03	3.0849E-12	1.9152E+13	5.7787E+17
Nb-95	1.1297E+02	2.8889E-06	1.8313E+19	3.9312E+18
Mo-99	1.2043E+02	2.5110E-07	1.5275E+18	2.0822E+19
Tc-99m	1.2347E+02	2.3482E-08	1.4284E+17	1.9802E+19
Ru-103	1.0807E+03	3.3487E-05	1.9579E+20	4.1070E+19
Ru-106	5.5187E+02	1.6495E-04	9.3715E+20	1.9261E+19
Rh-105	8.8468E+00	1.0481E-08	6.0114E+16	8.3173E+18
Sb-127	2.3500E+02	8.7999E-07	4.1728E+18	2.4362E+19
Te-127	4.6140E+02	1.7483E-07	8.2902E+17	2.9866E+19
Te-127m	2.3434E+02	2.4843E-05	1.1780E+20	8.2711E+18
Te-129	7.0487E+02	3.3658E-08	1.5712E+17	3.2343E+19
Te-129m	8.1515E+02	2.7059E-05	1.2632E+20	3.1473E+19
Te-131m	1.2630E+01	1.5839E-08	7.2812E+16	2.5271E+19
Te-132	2.7181E+03	8.9532E-06	4.0847E+19	3.5384E+20
I-131	4.7083E+04	3.7978E-04	1.7459E+21	2.6380E+21
I-132	3.2444E+03	3.1431E-07	1.4340E+18	6.9086E+20
I-133	7.7014E+01	6.7985E-08	3.0783E+17	1.3413E+21
I-135	2.5619E-06	7.2950E-16	3.2542E+09	6.3416E+20
Xe-133	2.4581E+07	1.3132E-01	5.9462E+23	1.6625E+24
Xe-135	4.3443E-01	1.7012E-10	7.5886E+14	6.4192E+22
Cs-134	1.6602E+04	1.2832E-02	5.7666E+22	5.8749E+20
Cs-136	2.6938E+03	3.6755E-05	1.6275E+20	1.2786E+20
Cs-137	1.3280E+04	1.5268E-01	6.7112E+23	4.6777E+20
Ba-140	6.7693E+03	9.2466E-05	3.9774E+20	3.1647E+20
La-140	7.6424E+03	1.3750E-05	5.9144E+19	2.3130E+20
Ce-141	2.1694E+02	7.6138E-06	3.2519E+19	8.4110E+18
Ce-143	1.6163E+00	2.4338E-09	1.0250E+16	2.0979E+18
Ce-144	2.2456E+02	7.0405E-05	2.9444E+20	7.8606E+18
Pr-143	7.4515E+01	1.1066E-06	4.6601E+18	3.1882E+18
Nd-147	2.2916E+01	2.8327E-07	1.1605E+18	1.1274E+18
Np-239	1.6618E+02	7.1633E-07	1.8050E+18	3.9414E+19
Pu-238	8.2610E-01	4.8254E-05	1.2210E+20	2.8528E+16
Pu-239	7.8756E-02	1.2671E-03	3.1926E+21	2.7123E+15
Pu-240	1.4282E-01	6.2678E-04	1.5727E+21	4.9350E+15
Pu-241	3.1497E+01	3.0576E-04	7.6404E+20	1.0891E+18
Am-241	2.2086E-02	6.4351E-06	1.6080E+19	7.3771E+14
Cm-242	5.0488E+00	1.5234E-06	3.7908E+18	1.7846E+17
Cm-244	3.0595E-01	3.7817E-06	9.3336E+18	1.0578E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	1.4810E+25	0.0000E+00
Elemental I (atoms)	1.8866E+20	5.4908E+22
Organic I (atoms)	3.2739E+20	0.0000E+00
Aerosols (kg)	1.7587E-01	5.2582E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	1.7514E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	1.7553E-05
Total I (Ci)		5.0404E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19

Aerosols (kg)	0.0000E+00	6.5555E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3036E+23
Elemental I (atoms)	0.0000E+00	5.4940E+18
Organic I (atoms)	0.0000E+00	8.5598E+18
Aerosols (kg)	0.0000E+00	3.2657E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0043E+27
Elemental I (atoms)	0.0000E+00	1.0541E+23
Organic I (atoms)	0.0000E+00	1.7619E+23
Aerosols (kg)	0.0000E+00	6.1741E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9934E+27
Elemental I (atoms)	0.0000E+00	1.0500E+23
Organic I (atoms)	0.0000E+00	1.7551E+23
Aerosols (kg)	0.0000E+00	6.1638E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	5.6704E+04	1.4453E-01	1.0240E+24	2.0981E+15
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8209E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	7.0584E-01	8.6747E-09	6.0744E+16	2.6116E+10
Sr-89	3.5422E+01	1.2193E-06	8.2501E+18	1.3106E+12
Sr-90	5.8762E+00	4.3078E-05	2.8825E+20	2.1742E+11
Sr-91	8.6724E+00	2.3924E-09	1.5832E+16	3.2088E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	3.0500E+00	5.6060E-09	3.7511E+16	1.1285E+11
Y-91	5.5245E-01	2.2527E-08	1.4908E+17	2.0441E+10
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2619E-02	2.1766E-11	1.4095E+14	2.6869E+09
Zr-95	6.5956E-01	3.0702E-08	1.9462E+17	2.4404E+10
Zr-97	1.6411E-01	8.5847E-11	5.3297E+14	6.0721E+09
Nb-95	6.8587E-01	1.7540E-08	1.1119E+17	2.5377E+10
Mo-99	4.4043E+00	9.1830E-09	5.5860E+16	1.6296E+11
Tc-99m	4.2883E+00	8.1554E-10	4.9609E+15	1.5867E+11
Ru-103	7.2517E+00	2.2469E-07	1.3137E+18	2.6831E+11
Ru-105	6.2811E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	3.3617E+00	1.0048E-06	5.7086E+18	1.2438E+11
Rh-105	2.0003E+00	2.3699E-09	1.3592E+16	7.4011E+10
Sb-127	4.8815E+00	1.8279E-08	8.6677E+16	1.8062E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	5.8639E+00	2.2219E-09	1.0536E+16	2.1696E+11
Te-127m	1.4443E+00	1.5312E-07	7.2608E+17	5.3441E+10
Te-129	8.1312E+00	3.8827E-10	1.8126E+15	3.0085E+11
Te-129m	5.5680E+00	1.8483E-07	8.6283E+17	2.0601E+11
Te-131m	6.3590E+00	7.9746E-09	3.6660E+16	2.3528E+11
Te-132	7.2697E+01	2.3945E-07	1.0924E+18	2.6898E+12
I-131	1.6928E+03	1.3655E-05	6.2772E+19	6.2635E+13
I-132	3.6469E+02	3.5331E-08	1.6119E+17	1.3494E+13
I-133	1.0662E+03	9.4123E-07	4.2618E+18	3.9451E+13

I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4263E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	3.8262E+06	2.0441E-02	9.2556E+22	1.4157E+17
Xe-135	1.8470E+05	7.2325E-05	3.2263E+20	6.8338E+15
Cs-134	1.0591E+02	8.1859E-05	3.6788E+20	3.9187E+12
Cs-136	2.4098E+01	3.2880E-07	1.4560E+18	8.9164E+11
Cs-137	8.4269E+01	9.6881E-04	4.2586E+21	3.1179E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	5.7459E+01	7.8487E-07	3.3761E+18	2.1260E+12
La-140	3.5345E+01	6.3591E-08	2.7354E+17	1.3078E+12
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	1.4890E+00	5.2259E-08	2.2320E+17	5.5095E+10
Ce-143	5.1610E-01	7.7716E-10	3.2729E+15	1.9096E+10
Ce-144	1.3725E+00	4.3032E-07	1.7996E+18	5.0782E+10
Pr-143	5.6233E-01	8.3508E-09	3.5168E+16	2.0806E+10
Nd-147	2.0607E-01	2.5473E-09	1.0435E+16	7.6247E+09
Np-239	8.5894E+00	3.7025E-08	9.3292E+16	3.1781E+11
Pu-238	4.9719E-03	2.9042E-07	7.3485E+17	1.8396E+08
Pu-239	4.7228E-04	7.5983E-06	1.9146E+19	1.7475E+07
Pu-240	8.6016E-04	3.7748E-06	9.4719E+18	3.1826E+07
Pu-241	1.8985E-01	1.8429E-06	4.6052E+18	7.0243E+09
Am-241	1.2799E-04	3.7292E-08	9.3186E+16	4.7357E+06
Cm-242	3.1201E-02	9.4142E-09	2.3427E+16	1.1544E+09
Cm-244	1.8438E-03	2.2790E-08	5.6248E+16	6.8220E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1169E+24	1.2927E+18	
Elemental I (atoms)	1.2162E+19	1.4076E+13	
Organic I (atoms)	4.0472E+19	4.6842E+13	
Aerosols (kg)	1.1155E-03	1.2911E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.8854E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0289E+03
Total I (Ci)			3.6279E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5014E+23
Elemental I (atoms)	4.1564E+18	6.3989E+18
Organic I (atoms)	0.0000E+00	1.6440E+19
Aerosols (kg)	5.6418E-03	7.8247E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5002E+23
Elemental I (atoms)	3.5872E+18	4.0026E+18
Organic I (atoms)	0.0000E+00	1.6424E+19
Aerosols (kg)	1.1980E-03	2.9538E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1721E+23
Elemental I (atoms)	1.8221E+18	1.8133E+18
Organic I (atoms)	0.0000E+00	7.7958E+18
Aerosols (kg)	3.0583E-04	3.7684E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9857E+20
Elemental I (atoms)	5.5957E+15	1.5708E+14
Organic I (atoms)	1.1850E+16	1.2770E+14
Aerosols (kg)	4.3042E-07	1.5766E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5587E+19
Elemental I (atoms)	0.0000E+00	1.4232E+15
Organic I (atoms)	0.0000E+00	2.6413E+15
Aerosols (kg)	0.0000E+00	1.1617E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	3.6327E+20	0.0000E+00
Elemental I (atoms)	1.5686E+15	0.0000E+00
Organic I (atoms)	2.7532E+15	0.0000E+00
Aerosols (kg)	1.3181E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6707E+00	6.6344E+01	6.5652E+00
Accumulated dose (rem)	1.3248E+01	2.4832E+02	2.5811E+01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5660E-03	1.1915E-01	1.3357E-02
Accumulated dose (rem)	3.1938E-01	2.8421E+00	4.4533E-01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4845E-02	4.8552E+00	3.8300E-01
Accumulated dose (rem)	8.8519E-01	5.8464E+01	3.5072E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.2436E+05	1.8463E+00	1.3081E+25	7.3881E+22
Rb-86	3.8513E+01	4.7333E-07	3.3145E+18	7.6171E+18
Sr-89	3.7957E+03	1.3065E-04	8.8405E+20	4.9239E+20
Sr-90	8.9946E+02	6.5939E-03	4.4122E+22	9.3607E+19
Y-90	9.0419E+02	1.6619E-06	1.1120E+19	7.9312E+19
Y-91	6.4917E+01	2.6471E-06	1.7518E+19	8.0808E+18
Zr-95	7.6231E+01	3.5484E-06	2.2494E+19	9.4268E+18
Zr-97	1.5350E-11	8.0295E-21	4.9850E+04	5.7789E+17
Nb-95	9.7599E+01	2.4959E-06	1.5822E+19	1.0675E+19
Mo-99	7.1919E-01	1.4995E-09	9.1215E+15	2.2316E+19
Tc-99m	7.3734E-01	1.4023E-10	8.5299E+14	2.1257E+19
Ru-103	7.0123E+02	2.1727E-05	1.2703E+20	9.7160E+19
Ru-106	4.9078E+02	1.4670E-04	8.3342E+20	5.2551E+19
Rh-105	6.6960E-04	7.9331E-13	4.5499E+12	8.3769E+18
Sb-127	5.9250E+00	2.2187E-08	1.0521E+17	2.8341E+19
Te-127	2.0129E+02	7.6273E-08	3.6167E+17	4.6881E+19
Te-127m	1.9177E+02	2.0331E-05	9.6405E+19	2.1868E+19
Te-129	4.3085E+02	2.0573E-08	9.6043E+16	5.9146E+19
Te-129m	4.9826E+02	1.6540E-05	7.7213E+19	7.2629E+19

Te-131m	1.7796E-04	2.2318E-13	1.0260E+12	2.5344E+19
Te-132	3.5639E+01	1.1739E-07	5.3556E+17	3.9340E+20
I-131	7.7528E+03	6.2535E-05	2.8748E+20	4.0320E+21
I-132	4.2539E+01	4.1211E-09	1.8801E+16	7.3182E+20
I-133	8.0377E-06	7.0954E-15	3.2127E+10	1.3416E+21
Xe-133	1.6149E+06	8.6272E-03	3.9063E+22	2.2018E+24
Cs-134	1.5051E+04	1.1633E-02	5.2280E+22	1.5985E+21
Cs-136	8.6336E+02	1.1780E-05	5.2162E+19	2.3070E+20
Cs-137	1.2248E+04	1.4081E-01	6.1895E+23	1.2833E+21
Ba-140	2.1056E+03	2.8762E-05	1.2372E+20	5.7179E+20
La-140	2.4459E+03	4.4004E-06	1.8929E+19	5.2399E+20
Ce-141	1.3077E+02	4.5895E-06	1.9602E+19	1.9294E+19
Ce-143	6.2417E-05	9.3989E-14	3.9582E+11	2.1081E+18
Ce-144	1.9749E+02	6.1920E-05	2.5895E+20	2.1333E+19
Pr-143	2.4815E+01	3.6851E-07	1.5519E+18	6.0810E+18
Nd-147	5.9873E+00	7.4010E-08	3.0320E+17	1.9337E+18
Np-239	4.2607E-01	1.8366E-09	4.6276E+15	4.1190E+19
Pu-238	7.6445E-01	4.4653E-05	1.1299E+20	7.9345E+16
Pu-239	7.2767E-02	1.1707E-03	2.9499E+21	7.5542E+15
Pu-240	1.3189E-01	5.7879E-04	1.4523E+21	1.3712E+16
Pu-241	2.9009E+01	2.8161E-04	7.0369E+20	3.0221E+18
Am-241	2.2944E-02	6.6850E-06	1.6705E+19	2.1785E+15
Cm-242	4.2817E+00	1.2919E-06	3.2149E+18	4.7604E+17
Cm-244	2.8193E-01	3.4849E-06	8.6010E+18	2.9359E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	1.3120E+25	0.0000E+00
Elemental I (atoms)	3.1036E+19	5.4908E+22
Organic I (atoms)	5.3858E+19	0.0000E+00
Aerosols (kg)	1.6163E-01	5.2582E+01

Dose Effective (Ci/cc) I-131 (Thyroid) 2.8821E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 2.8825E-06
Total I (Ci) 7.7953E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9551E+23
Elemental I (atoms)	0.0000E+00	7.8011E+18
Organic I (atoms)	0.0000E+00	1.2563E+19
Aerosols (kg)	0.0000E+00	7.7128E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3818E+28

Elemental I (atoms)	0.0000E+00	1.6110E+23
Organic I (atoms)	0.0000E+00	2.7282E+23
Aerosols (kg)	0.0000E+00	1.6908E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3808E+28
Elemental I (atoms)	0.0000E+00	1.6069E+23
Organic I (atoms)	0.0000E+00	2.7216E+23
Aerosols (kg)	0.0000E+00	1.6899E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.5691E+05	3.9994E-01	2.8335E+24	5.8057E+15
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8209E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	1.2570E+00	1.5449E-08	1.0818E+17	4.6510E+10
Sr-89	7.7453E+01	2.6660E-06	1.8039E+19	2.8658E+12
Sr-90	1.4524E+01	1.0647E-04	7.1245E+20	5.3738E+11
Sr-91	8.6724E+00	2.3924E-09	1.5832E+16	3.2088E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	1.1620E+01	2.1357E-08	1.4291E+17	4.2993E+11
Y-91	1.2572E+00	5.1264E-08	3.3925E+17	4.6516E+10
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2619E-02	2.1766E-11	1.4095E+14	2.6869E+09
Zr-95	1.4784E+00	6.8817E-08	4.3624E+17	5.4700E+10
Zr-97	1.6411E-01	8.5848E-11	5.3298E+14	6.0722E+09
Nb-95	1.6599E+00	4.2448E-08	2.6908E+17	6.1415E+10
Mo-99	4.6190E+00	9.6306E-09	5.8583E+16	1.7090E+11
Tc-99m	4.5084E+00	8.5740E-10	5.2155E+15	1.6681E+11
Ru-103	1.5347E+01	4.7553E-07	2.7803E+18	5.6784E+11
Ru-105	6.2811E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	8.1681E+00	2.4415E-06	1.3871E+19	3.0222E+11
Rh-105	2.0088E+00	2.3800E-09	1.3650E+16	7.4326E+10
Sb-127	5.4539E+00	2.0423E-08	9.6841E+16	2.0179E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	8.4083E+00	3.1860E-09	1.5108E+16	3.1111E+11
Te-127m	3.4072E+00	3.6122E-07	1.7128E+18	1.2607E+11
Te-129	1.3267E+01	6.3352E-10	2.9575E+15	4.9089E+11
Te-129m	1.1508E+01	3.8199E-07	1.7833E+18	4.2578E+11
Te-131m	6.3693E+00	7.9876E-09	3.6719E+16	2.3566E+11
Te-132	7.8384E+01	2.5819E-07	1.1779E+18	2.9002E+12
I-131	2.3790E+03	1.9190E-05	8.8216E+19	8.8025E+13
I-132	3.8215E+02	3.7022E-08	1.6890E+17	1.4139E+13
I-133	1.0664E+03	9.4136E-07	4.2624E+18	3.9456E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4263E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	4.9421E+06	2.6403E-02	1.1955E+23	1.8286E+17
Xe-135	1.8470E+05	7.2325E-05	3.2263E+20	6.8338E+15
Cs-134	2.5188E+02	1.9468E-04	8.7490E+20	9.3194E+12
Cs-136	3.8931E+01	5.3118E-07	2.3521E+18	1.4404E+12
Cs-137	2.0202E+02	2.3226E-03	1.0209E+22	7.4748E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	9.4281E+01	1.2878E-06	5.5396E+18	3.4884E+12
La-140	7.7876E+01	1.4011E-07	6.0267E+17	2.8814E+12
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	3.0597E+00	1.0738E-07	4.5864E+17	1.1321E+11
Ce-143	5.1755E-01	7.7935E-10	3.2821E+15	1.9149E+10
Ce-144	3.3176E+00	1.0402E-06	4.3500E+18	1.2275E+11
Pr-143	9.7955E-01	1.4547E-08	6.1260E+16	3.6243E+10

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Nd-147                 3.2234E-01  3.9845E-09  1.6323E+16  1.1927E+10
Np-239                 8.8443E+00  3.8123E-08  9.6060E+16  3.2724E+11
Pu-238                 1.2309E-02  7.1900E-07  1.8193E+18  4.5544E+08
Pu-239                 1.1714E-03  1.8845E-05  4.7485E+19  4.3341E+07
Pu-240                 2.1273E-03  9.3359E-06  2.3426E+19  7.8711E+07
Pu-241                 4.6894E-01  4.5523E-06  1.1375E+19  1.7351E+10
Am-241                 3.3607E-04  9.7916E-08  2.4467E+17  1.2434E+07
Cm-242                 7.4163E-02  2.2377E-08  5.5684E+16  2.7440E+09
Cm-244                 4.5555E-03  5.6308E-08  1.3897E+17  1.6855E+08

Environment Transport Group Inventory:

                         Total      Release
Time (h) = 720.0000     Release     Rate/s
Noble gases (atoms)    2.9535E+24  1.1394E+18
Elemental I (atoms)    1.2300E+19  4.7452E+12
Organic I (atoms)      6.0535E+19  2.3355E+13
Aerosols (kg)          2.6719E-03  1.0308E-09
Dose Effective (Ci) I-131 (Thyroid)            2.5717E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      2.7157E+03
Total I  (Ci)                                  4.3317E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1855E+24
Elemental I (atoms)    8.6750E+18  6.5262E+18
Organic I (atoms)      0.0000E+00  2.4502E+19
Aerosols (kg)          1.3506E-02  1.8732E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1854E+24
Elemental I (atoms)    3.9046E+18  4.0096E+18
Organic I (atoms)      0.0000E+00  2.4486E+19
Aerosols (kg)          2.8683E-03  7.0723E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8324E+23
Elemental I (atoms)    2.0104E+18  1.8175E+18
Organic I (atoms)      0.0000E+00  1.1809E+19
Aerosols (kg)          7.4200E-04  9.1427E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7928E+20
Elemental I (atoms)    5.6241E+15  1.5736E+14
Organic I (atoms)      1.5982E+16  1.6944E+14
Aerosols (kg)          7.4980E-07  1.8992E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4913E+20
Elemental I (atoms)    0.0000E+00  1.4295E+15
Organic I (atoms)      0.0000E+00  3.5572E+15
Aerosols (kg)          0.0000E+00  1.8696E-07
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Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	8.2757E+20	0.0000E+00
Elemental I (atoms)	1.5754E+15	0.0000E+00
Organic I (atoms)	3.7110E+15	0.0000E+00
Aerosols (kg)	2.0583E-07	0.0000E+00

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##
I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	3.6628E+01	3.6336E+01
0.500	5.2943E+05	1.0490E+02	1.0107E+02
0.667	8.4096E+05	1.4142E+02	1.3500E+02
1.000	8.8113E+05	2.1978E+02	2.0618E+02
1.160	8.8779E+05	2.5389E+02	2.3608E+02
1.410	8.9559E+05	3.0264E+02	2.7757E+02
1.660	9.0135E+05	3.4621E+02	3.1335E+02
1.910	9.0583E+05	3.8508E+02	3.4414E+02
2.000	9.0723E+05	3.9801E+02	3.5414E+02
2.200	1.1305E+05	3.8900E+02	3.4149E+02
2.300	7.8894E+04	3.7964E+02	3.3051E+02
2.600	1.6297E+05	3.5574E+02	3.0257E+02
2.900	1.6484E+05	3.3600E+02	2.7979E+02
3.200	1.4699E+05	3.1726E+02	2.5883E+02
3.500	1.2694E+05	2.9888E+02	2.3895E+02
3.800	1.0916E+05	2.8086E+02	2.2006E+02
4.000	9.8982E+04	2.6911E+02	2.0806E+02
4.300	1.0849E+05	2.5280E+02	1.9175E+02
4.600	1.1191E+05	2.3825E+02	1.7760E+02
4.900	1.1308E+05	2.2508E+02	1.6513E+02
5.200	1.1343E+05	2.1307E+02	1.5408E+02
5.500	1.1348E+05	2.0209E+02	1.4425E+02
5.800	1.1341E+05	1.9205E+02	1.3549E+02
6.100	1.1330E+05	1.8286E+02	1.2770E+02
6.400	1.1318E+05	1.7444E+02	1.2075E+02
6.700	1.1305E+05	1.6673E+02	1.1455E+02
7.000	1.1292E+05	1.5968E+02	1.0903E+02
7.300	1.1279E+05	1.5321E+02	1.0411E+02
7.600	1.1266E+05	1.4729E+02	9.9717E+01
7.900	1.1253E+05	1.4186E+02	9.5799E+01
8.000	1.1249E+05	1.4016E+02	9.4590E+01
8.300	1.1236E+05	1.3533E+02	9.1224E+01
8.600	1.1223E+05	1.3090E+02	8.8220E+01
8.900	1.1210E+05	1.2684E+02	8.5537E+01
9.200	1.1197E+05	1.2312E+02	8.3141E+01
9.500	1.1184E+05	1.1971E+02	8.1000E+01
9.800	1.1171E+05	1.1658E+02	7.9086E+01
10.100	1.1158E+05	1.1371E+02	7.7373E+01
10.400	1.1146E+05	1.1108E+02	7.5841E+01
24.000	1.0575E+05	8.0029E+01	6.0798E+01
48.000	9.6725E+04	7.3049E+01	5.5770E+01
72.000	8.8437E+04	6.6786E+01	5.0993E+01
96.000	8.0841E+04	6.1049E+01	4.6613E+01
240.000	4.7083E+04	3.5556E+01	2.7148E+01
720.000	7.7528E+03	5.8547E+00	4.4702E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1396E-01	1.8469E+01	4.3678E-02
0.500	3.4945E+00	5.4899E+01	5.6698E-01
0.667	5.4436E+00	7.4927E+01	9.4735E-01
1.000	1.0335E+01	1.1921E+02	2.0075E+00
1.160	1.2897E+01	1.3937E+02	2.6302E+00
1.410	1.6890E+01	1.6927E+02	3.7071E+00
1.660	2.0701E+01	1.9725E+02	4.8727E+00
1.910	2.4230E+01	2.2339E+02	6.0930E+00
2.000	2.5423E+01	2.3236E+02	6.5404E+00
2.200	2.6714E+01	2.3112E+02	7.0990E+00
2.300	2.7126E+01	2.2795E+02	7.3491E+00
2.600	2.7596E+01	2.2009E+02	7.9861E+00
2.900	2.7333E+01	2.1374E+02	8.4893E+00
3.200	2.6640E+01	2.0739E+02	8.8863E+00
3.500	2.5683E+01	2.0075E+02	9.1938E+00
3.800	2.4567E+01	1.9384E+02	9.4250E+00
4.000	2.3771E+01	1.8914E+02	9.5421E+00
4.300	2.2548E+01	1.8243E+02	9.6704E+00
4.600	2.1345E+01	1.7626E+02	9.7524E+00
4.900	2.0200E+01	1.7050E+02	9.7977E+00
5.200	1.9129E+01	1.6506E+02	9.8137E+00
5.500	1.8142E+01	1.5992E+02	9.8065E+00
5.800	1.7238E+01	1.5505E+02	9.7810E+00
6.100	1.6417E+01	1.5044E+02	9.7411E+00
6.400	1.5673E+01	1.4607E+02	9.6901E+00
6.700	1.5002E+01	1.4193E+02	9.6308E+00
7.000	1.4397E+01	1.3800E+02	9.5652E+00
7.300	1.3854E+01	1.3429E+02	9.4953E+00
7.600	1.3367E+01	1.3076E+02	9.4224E+00
7.900	1.2931E+01	1.2742E+02	9.3478E+00
8.000	1.2795E+01	1.2635E+02	9.3228E+00
8.300	1.2408E+01	1.2324E+02	9.2417E+00
8.600	1.2063E+01	1.2029E+02	9.1619E+00
8.900	1.1755E+01	1.1749E+02	9.0835E+00
9.200	1.1481E+01	1.1484E+02	9.0069E+00
9.500	1.1237E+01	1.1232E+02	8.9323E+00
9.800	1.1018E+01	1.0994E+02	8.8600E+00
10.100	1.0822E+01	1.0768E+02	8.7899E+00
10.400	1.0647E+01	1.0553E+02	8.7221E+00
24.000	8.8468E+00	6.8408E+01	7.2962E+00
48.000	8.0362E+00	5.9693E+01	6.4770E+00
72.000	7.1598E+00	5.4271E+01	5.7306E+00
96.000	6.2886E+00	4.9577E+01	4.9939E+00
240.000	3.4954E+00	2.8872E+01	2.7467E+00
720.000	5.1463E-01	4.7541E+00	3.8963E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	1.6584E-01	5.3393E-04	1.2411E+05
0.500	2.6708E+00	5.5885E-03	2.6443E+05
0.667	4.8757E+00	8.5855E-03	3.3106E+05
1.000	1.1808E+01	6.3740E-03	4.5043E+05
1.160	1.6379E+01	5.9346E-03	4.8753E+05
1.410	2.5108E+01	5.7790E-03	5.2816E+05
1.660	3.5703E+01	6.0632E-03	5.5451E+05
1.910	4.8066E+01	6.6197E-03	5.7179E+05
2.000	5.2930E+01	6.8636E-03	5.7647E+05
2.200	5.9490E+01	6.1120E-03	4.5315E+05
2.300	6.2777E+01	5.8198E-03	3.8196E+05
2.600	7.2566E+01	5.1689E-03	2.5035E+05
2.900	8.2230E+01	4.7488E-03	1.8721E+05
3.200	9.1731E+01	4.4644E-03	1.4917E+05
3.500	1.0104E+02	4.2577E-03	1.2241E+05

3.800	1.1012E+02	4.0949E-03	1.0208E+05
4.000	1.1605E+02	4.0009E-03	9.1023E+04
4.300	1.2474E+02	3.8737E-03	8.1300E+04
4.600	1.3322E+02	3.7592E-03	7.7664E+04
4.900	1.4148E+02	3.6551E-03	7.6270E+04
5.200	1.4955E+02	3.5595E-03	7.5701E+04
5.500	1.5744E+02	3.4716E-03	7.5437E+04
5.800	1.6516E+02	3.3907E-03	7.5285E+04
6.100	1.7273E+02	3.3162E-03	7.5174E+04
6.400	1.8017E+02	3.2477E-03	7.5078E+04
6.700	1.8747E+02	3.1849E-03	7.4988E+04
7.000	1.9466E+02	3.1273E-03	7.4901E+04
7.300	2.0174E+02	3.0746E-03	7.4814E+04
7.600	2.0872E+02	3.0264E-03	7.4727E+04
7.900	2.1561E+02	2.9824E-03	7.4641E+04
8.000	2.1789E+02	2.9685E-03	7.4612E+04
8.300	2.2459E+02	2.2844E-03	7.4526E+04
8.600	2.3122E+02	1.8597E-03	7.4440E+04
8.900	2.3778E+02	1.5946E-03	7.4354E+04
9.200	2.4428E+02	1.4278E-03	7.4268E+04
9.500	2.5072E+02	1.3217E-03	7.4182E+04
9.800	2.5711E+02	1.2531E-03	7.4096E+04
10.100	2.6346E+02	1.2079E-03	7.4010E+04
10.400	2.6976E+02	1.1773E-03	7.3925E+04
24.000	5.3662E+02	1.0205E-03	7.0139E+04
48.000	7.4594E+02	2.9643E-04	6.4149E+04
72.000	9.2250E+02	2.4975E-04	5.8653E+04
96.000	1.0710E+03	2.1005E-04	5.3615E+04
240.000	1.6928E+03	9.5403E-05	3.1226E+04
720.000	2.3790E+03	1.4896E-05	5.1417E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2376E-02	1.1130E-03	2.3445E-03	1.1662E-04	2.0833E-02	8.4743E-04
0.500	3.5926E-01	1.8984E-02	3.7643E-02	1.9891E-03	8.4249E-01	3.4091E-02
0.667	6.5561E-01	3.6869E-02	6.8696E-02	3.8632E-03	1.8282E+00	7.4269E-02
1.000	1.5927E+00	1.1147E-01	1.6688E-01	1.1680E-02	3.8729E+00	1.6036E-01
1.160	2.2111E+00	1.7155E-01	2.3168E-01	1.7975E-02	4.6932E+00	1.9683E-01
1.410	3.3917E+00	3.0343E-01	3.5538E-01	3.1794E-02	5.9093E+00	2.5489E-01
1.660	4.8228E+00	4.8589E-01	5.0533E-01	5.0912E-02	7.1435E+00	3.1960E-01
1.910	6.4896E+00	7.2164E-01	6.7999E-01	7.5614E-02	8.4686E+00	3.9517E-01
2.000	7.1444E+00	8.1977E-01	7.4859E-01	8.5896E-02	8.9769E+00	4.2557E-01
2.200	8.0268E+00	9.5750E-01	7.8691E-01	9.1878E-02	1.0061E+01	4.9195E-01
2.300	8.4680E+00	1.0288E+00	8.0607E-01	9.4973E-02	1.0560E+01	5.2301E-01
2.600	9.7784E+00	1.2497E+00	8.6298E-01	1.0457E-01	1.1932E+01	6.1024E-01
2.900	1.1067E+01	1.4784E+00	9.1893E-01	1.1450E-01	1.3168E+01	6.9153E-01
3.200	1.2328E+01	1.7117E+00	9.7372E-01	1.2463E-01	1.4313E+01	7.6917E-01
3.500	1.3559E+01	1.9467E+00	1.0272E+00	1.3484E-01	1.5395E+01	8.4432E-01
3.800	1.4756E+01	2.1814E+00	1.0791E+00	1.4503E-01	1.6427E+01	9.1747E-01
4.000	1.5534E+01	2.3367E+00	1.1129E+00	1.5177E-01	1.7093E+01	9.6523E-01
4.300	1.6672E+01	2.5670E+00	1.1623E+00	1.6177E-01	1.8060E+01	1.0353E+00
4.600	1.7776E+01	2.7932E+00	1.2103E+00	1.7160E-01	1.8994E+01	1.1036E+00
4.900	1.8849E+01	3.0147E+00	1.2569E+00	1.8121E-01	1.9899E+01	1.1701E+00
5.200	1.9893E+01	3.2308E+00	1.3022E+00	1.9060E-01	2.0775E+01	1.2346E+00
5.500	2.0910E+01	3.4412E+00	1.3464E+00	1.9973E-01	2.1626E+01	1.2973E+00
5.800	2.1902E+01	3.6456E+00	1.3894E+00	2.0861E-01	2.2454E+01	1.3581E+00
6.100	2.2871E+01	3.8441E+00	1.4315E+00	2.1723E-01	2.3260E+01	1.4172E+00
6.400	2.3818E+01	4.0365E+00	1.4727E+00	2.2559E-01	2.4046E+01	1.4744E+00
6.700	2.4746E+01	4.2229E+00	1.5130E+00	2.3368E-01	2.4814E+01	1.5299E+00
7.000	2.5657E+01	4.4033E+00	1.5525E+00	2.4151E-01	2.5565E+01	1.5838E+00

```
   7.300 2.6551E+01 4.5779E+00 1.5913E+00 2.4910E-01 2.6300E+01 1.6361E+00
   7.600 2.7429E+01 4.7468E+00 1.6295E+00 2.5643E-01 2.7021E+01 1.6869E+00
   7.900 2.8294E+01 4.9103E+00 1.6671E+00 2.6353E-01 2.7729E+01 1.7362E+00
   8.000 2.8580E+01 4.9636E+00 1.6794E+00 2.6585E-01 2.7962E+01 1.7524E+00
   8.300 2.9417E+01 5.1197E+00 1.6915E+00 2.6976E-01 2.8573E+01 1.7943E+00
   8.600 3.0243E+01 5.2708E+00 1.7034E+00 2.7353E-01 2.9054E+01 1.8269E+00
   8.900 3.1058E+01 5.4170E+00 1.7151E+00 2.7719E-01 2.9455E+01 1.8538E+00
   9.200 3.1863E+01 5.5587E+00 1.7267E+00 2.8072E-01 2.9805E+01 1.8771E+00
   9.500 3.2660E+01 5.6959E+00 1.7381E+00 2.8413E-01 3.0123E+01 1.8980E+00
   9.800 3.3448E+01 5.8289E+00 1.7495E+00 2.8743E-01 3.0421E+01 1.9173E+00
  10.100 3.4228E+01 5.9580E+00 1.7607E+00 2.9063E-01 3.0704E+01 1.9355E+00
  10.400 3.5001E+01 6.0832E+00 1.7718E+00 2.9373E-01 3.0979E+01 1.9530E+00
  24.000 6.6380E+01 9.7667E+00 2.2231E+00 3.8079E-01 4.1590E+01 2.5237E+00
  48.000 8.9040E+01 1.1630E+01 2.3833E+00 3.9767E-01 4.4825E+01 2.6759E+00
  72.000 1.0707E+02 1.3047E+01 2.5108E+00 4.1027E-01 4.7232E+01 2.7902E+00
  96.000 1.2179E+02 1.4245E+01 2.6148E+00 4.2091E-01 4.9198E+01 2.8875E+00
 240.000 1.8197E+02 1.9246E+01 2.7229E+00 4.3198E-01 5.3609E+01 3.1242E+00
 720.000 2.4832E+02 2.5811E+01 2.8421E+00 4.4533E-01 5.8464E+01 3.5072E+00

#################################################################
                        Worst Two-Hour Doses
#################################################################

Exclusion Area Boundary
   Time   Whole Body    Thyroid        TEDE
   (hr)      (rem)        (rem)         (rem)
    1.6   1.1321E+00   9.4788E+00   1.5828E+00
```

Attachment 12.4a - RADTRAD Output File "DRE3MS11_Fram.o0" (Framatome Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:47:34
 ######################################################################

 ######################################################################
                     File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS11_Fram.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 External Cloud Submergence Gamma Dose Rate @ CR Air Intake Due To MSIV Leakage  - Core
Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs a
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
Drywell to Intact Control Volume 2
```

```
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
```

```
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
```

```
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
```

```
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
CR Air Intake
  7
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   1.7800E-04
  9.6000E+01   9.7600E-05
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS11_Fram.o0
  1
  1
  1
  0
  0
End of Scenario File
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:47:34
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
```

```
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:47:34
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.371E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.575E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.021E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.653E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.858E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.034E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.483E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.875E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        6.363E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)     (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.542E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   6.764E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.356E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   1.883E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   5.106E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.593E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   4.078E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.289E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.481E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   4.211E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.349E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.514E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   2.666E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.774E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.642E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.774E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.006E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.443E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.024E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.880E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.831E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.377E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.653E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.361E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   4.045E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.222E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.664E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   5.404E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.813E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.666E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.879E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.504E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.100E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.238E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
       3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location CR Air Intake     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          1.7800E-04
       9.6000E+01          9.7600E-05
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
```

```
      7.2000E+02                0.0000E+00

    Location Occupancy Factor Data
     Time (hr)         Occupancy Factor
      0.0000E+00            1.0000E+00
      2.4000E+01            6.0000E-01
      9.6000E+01            4.0000E-01
      7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
    Time            Time step
     0.0000E+00       1.0000E-01
     1.0000E+00       1.0000E-02
     2.0000E+00       5.0000E-01
     8.0000E+00       1.0000E+00
     2.4000E+01       2.0000E+00
     9.6000E+01       5.0000E+00
     7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:47:34
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

CR Air Intake Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.3660E+22  0.0000E+00
Elemental I (atoms)    6.2043E+20  0.0000E+00
Organic I (atoms)      1.9188E+19  0.0000E+00
Aerosols (kg)          6.5728E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3741E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7573E-04
Total I (Ci)                                   2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0833E+21
Elemental I (atoms)    0.0000E+00  1.3811E+19
Organic I (atoms)      0.0000E+00  4.2713E+17
Aerosols (kg)          0.0000E+00  1.4620E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5284E+19
Elemental I (atoms)    0.0000E+00  3.0020E+17
Organic I (atoms)      0.0000E+00  9.2845E+15
Aerosols (kg)          0.0000E+00  3.1779E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

```
                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.1131E-04  2.2376E-02  1.1130E-03
Accumulated dose (rem)  2.1131E-04  2.2376E-02  1.1130E-03

CR Air Intake Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0944E-03  1.1589E-01  5.7646E-03
Accumulated dose (rem)  1.0944E-03  1.1589E-01  5.7646E-03

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.6241E-06  2.0833E-02  8.4743E-04
Accumulated dose (rem)  7.6241E-06  2.0833E-02  8.4743E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.0720E+04  5.2812E-02  3.7416E+23  3.1771E+17
Kr-85m                 3.0067E+05  3.6536E-05  2.5885E+20  4.6567E+18
Kr-87                  5.6483E+05  1.9941E-05  1.3803E+20  8.9726E+18
Kr-88                  8.2480E+05  6.5777E-05  4.5014E+20  1.2848E+19
Rb-86                  2.3285E+03  2.8617E-05  2.0039E+20  3.5708E+16
I-131                  1.2153E+06  9.8028E-03  4.5064E+22  1.8639E+19
I-132                  1.7110E+06  1.6576E-04  7.5625E+20  2.6631E+19
I-133                  2.4967E+06  2.2040E-03  9.9794E+21  3.8365E+19
I-134                  2.4392E+06  9.1435E-05  4.1092E+20  3.9377E+19
I-135                  2.3482E+06  6.6865E-04  2.9827E+21  3.6250E+19
Xe-133                 2.4047E+06  1.2847E-02  5.8170E+22  3.6866E+19
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Xe-135                 8.3040E+05  3.2517E-04  1.4505E+21  1.2568E+19
Cs-134                 3.0702E+05  2.3729E-01  1.0664E+24  4.7077E+18
Cs-136                 8.3757E+04  1.1428E-03  5.0604E+21  1.2845E+18
Cs-137                 2.4349E+05  2.7994E+00  1.2305E+25  3.7336E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.3463E+23  0.0000E+00
Elemental I (atoms)    2.8709E+21  0.0000E+00
Organic I (atoms)      8.8790E+19  0.0000E+00
Aerosols (kg)          3.0501E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.3621E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1087E-04
Total I (Ci)                                   1.0210E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3448E+19
Elemental I (atoms)    0.0000E+00  8.9005E+16
Organic I (atoms)      0.0000E+00  2.7527E+15
Aerosols (kg)          0.0000E+00  9.4375E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3448E+19
Elemental I (atoms)    0.0000E+00  8.9005E+16
Organic I (atoms)      0.0000E+00  2.7527E+15
Aerosols (kg)          0.0000E+00  9.4375E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7128E+18
Elemental I (atoms)    0.0000E+00  4.4428E+16
Organic I (atoms)      0.0000E+00  1.3740E+15
Aerosols (kg)          0.0000E+00  4.7108E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9547E+22
Elemental I (atoms)    0.0000E+00  3.2795E+20
Organic I (atoms)      0.0000E+00  1.0143E+19
Aerosols (kg)          0.0000E+00  3.4771E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1416E+21
Elemental I (atoms)    0.0000E+00  3.4021E+19
Organic I (atoms)      0.0000E+00  1.0522E+18
Aerosols (kg)          0.0000E+00  3.6082E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.8303E-02  4.6651E-08  3.3051E+17  6.7720E+08
Kr-85m                 2.6608E-01  3.2332E-11  2.2907E+14  9.8449E+09
Kr-87                  5.0217E-01  1.7729E-11  1.2272E+14  1.8580E+10
Kr-88                  7.3067E-01  5.8271E-11  3.9877E+14  2.7035E+10
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Rb-86	2.3459E-04	2.8831E-12	2.0189E+13	8.6798E+06
I-131	1.6584E-01	1.3377E-09	6.1495E+15	6.1361E+09
I-132	2.3216E-01	2.2491E-11	1.0261E+14	8.5899E+09
I-133	3.4082E-01	3.0087E-10	1.3623E+15	1.2611E+10
I-134	3.3607E-01	1.2598E-11	5.6616E+13	1.2435E+10
I-135	3.2083E-01	9.1357E-11	4.0753E+14	1.1871E+10
Xe-133	2.1235E+00	1.1345E-08	5.1368E+16	7.8570E+10
Xe-135	7.2478E-01	2.8381E-10	1.2660E+15	2.6817E+10
Cs-134	3.0930E-02	2.3906E-08	1.0744E+17	1.1444E+09
Cs-136	8.4383E-03	1.1513E-10	5.0982E+14	3.1222E+08
Cs-137	2.4531E-02	2.8202E-07	1.2397E+18	9.0764E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	3.8390E+17	6.3970E+14
Elemental I (atoms)	2.3340E+15	3.8893E+12
Organic I (atoms)	7.8443E+13	1.3071E+11
Aerosols (kg)	3.0728E-07	5.1204E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3358E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.9774E-01
Total I (Ci)	1.3957E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4607E+17
Elemental I (atoms)	1.5662E+14	2.1332E+15
Organic I (atoms)	0.0000E+00	7.0818E+13
Aerosols (kg)	2.1328E-06	2.9581E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3933E+16
Elemental I (atoms)	3.2208E+13	1.8294E+14
Organic I (atoms)	0.0000E+00	6.9430E+12
Aerosols (kg)	4.4415E-08	1.0951E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1197E+15
Elemental I (atoms)	3.9213E+12	2.2273E+13
Organic I (atoms)	0.0000E+00	8.4293E+11
Aerosols (kg)	2.8288E-09	3.4856E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1822E+14
Elemental I (atoms)	0.0000E+00	3.1553E+12
Organic I (atoms)	0.0000E+00	1.0604E+11
Aerosols (kg)	0.0000E+00	4.1476E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4222E+14
Elemental I (atoms)	0.0000E+00	5.7369E+12
Organic I (atoms)	0.0000E+00	1.9281E+11

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Aerosols (kg)          0.0000E+00  7.5412E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.2604E+14  0.0000E+00
Elemental I (atoms)    1.3786E+12  0.0000E+00
Organic I (atoms)      4.6250E+10  0.0000E+00
Aerosols (kg)          1.8269E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.4271E-03  3.3688E-01  1.7871E-02
Accumulated dose (rem)  4.6384E-03  3.5926E-01  1.8984E-02

CR Air Intake Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2929E-02  1.7448E+00  9.2557E-02
Accumulated dose (rem)  2.4024E-02  1.8607E+00  9.8322E-02

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.7497E-04  8.2166E-01  3.3243E-02
Accumulated dose (rem)  3.8260E-04  8.4249E-01  3.4091E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.4484E+04  1.3887E-01  9.8389E+23  2.2188E+18
Kr-85m                 7.5090E+05  9.1245E-05  6.4646E+20  3.1458E+19
Kr-87                  1.2385E+06  4.3724E-05  3.0266E+20  5.5825E+19
Kr-88                  1.9994E+06  1.5945E-04  1.0912E+21  8.5160E+19
Rb-86                  1.0072E+03  1.2379E-05  8.6684E+19  8.5796E+16
I-131                  5.2943E+05  4.2705E-03  1.9632E+22  4.4904E+19
I-132                  7.3931E+05  7.1623E-05  3.2676E+20  6.3829E+19
I-133                  1.0767E+06  9.5050E-04  4.3038E+21  9.2070E+19
I-134                  8.1727E+05  3.0636E-05  1.3768E+20  8.6214E+19
I-135                  9.8885E+05  2.8157E-04  1.2561E+21  8.6211E+19
Xe-133                 6.3169E+06  3.3748E-02  1.5281E+23  2.5738E+20
Xe-135                 2.1864E+06  8.5616E-04  3.8192E+21  8.8792E+19
Cs-134                 1.3287E+05  1.0270E-01  4.6154E+23  1.1313E+19
Cs-136                 3.6223E+04  4.9423E-04  2.1885E+21  3.0860E+18
Cs-137                 1.0538E+05  1.2115E+00  5.3256E+24  8.9727E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1426E+24  0.0000E+00
Elemental I (atoms)    1.2349E+21  7.5496E+21
Organic I (atoms)      2.3192E+20  0.0000E+00
Aerosols (kg)          1.3200E+00  8.0349E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7601E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.4947E-04
Total I (Ci)                                   4.1516E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1374E+20
Elemental I (atoms)    0.0000E+00  2.7814E+17
Organic I (atoms)      0.0000E+00  2.3187E+16
Aerosols (kg)          0.0000E+00  2.9567E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.6775E+19
Elemental I (atoms)	0.0000E+00	1.3884E+17
Organic I (atoms)	0.0000E+00	1.1574E+16
Aerosols (kg)	0.0000E+00	1.4759E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0352E+23
Elemental I (atoms)	0.0000E+00	9.9548E+20
Organic I (atoms)	0.0000E+00	8.2265E+19
Aerosols (kg)	0.0000E+00	1.0582E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0978E+23
Elemental I (atoms)	0.0000E+00	3.7778E+20
Organic I (atoms)	0.0000E+00	2.2359E+19
Aerosols (kg)	0.0000E+00	4.0232E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	5.7183E-01	1.4575E-06	1.0326E+19	2.1158E+10
Kr-85m	7.9777E+00	9.6941E-10	6.8681E+15	2.9518E+11
Kr-87	1.3583E+01	4.7953E-10	3.3193E+15	5.0257E+11
Kr-88	2.1394E+01	1.7062E-09	1.1676E+16	7.9159E+11
Rb-86	3.6209E-03	4.4501E-11	3.1161E+14	1.3397E+08
I-131	2.6708E+00	2.1543E-08	9.9036E+16	9.8821E+10
I-132	3.5496E+00	3.4388E-10	1.5689E+15	1.3133E+11
I-133	5.4502E+00	4.8112E-09	2.1785E+16	2.0166E+11
I-134	4.5069E+00	1.6894E-10	7.5926E+14	1.6676E+11
I-135	5.0445E+00	1.4364E-09	6.4077E+15	1.8665E+11
Xe-133	6.6305E+01	3.5423E-07	1.6039E+18	2.4533E+12
Xe-135	2.2842E+01	8.9447E-09	3.9901E+16	8.4517E+11
Cs-134	4.7758E-01	3.6912E-07	1.6589E+18	1.7670E+10
Cs-136	1.3023E-01	1.7768E-09	7.8679E+15	4.8183E+09
Cs-137	3.7877E-01	4.3546E-06	1.9142E+19	1.4015E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.1992E+19	6.6622E+15
Elemental I (atoms)	4.0066E+16	2.2259E+13
Organic I (atoms)	2.4370E+15	1.3539E+12
Aerosols (kg)	4.7446E-06	2.6359E-09

Dose Effective (Ci) I-131 (Thyroid)	3.7497E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.7522E+00
Total I (Ci)	2.1222E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.1283E+18
Elemental I (atoms)	2.2140E+15	3.0154E+16
Organic I (atoms)	0.0000E+00	1.8590E+15
Aerosols (kg)	3.0280E-05	4.1996E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5305E+18
Elemental I (atoms)	1.5558E+15	8.8372E+15
Organic I (atoms)	0.0000E+00	5.1509E+14
Aerosols (kg)	2.1564E-06	5.3170E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3481E+17
Elemental I (atoms)	2.1025E+14	1.1942E+15
Organic I (atoms)	0.0000E+00	6.8147E+13
Aerosols (kg)	1.5245E-07	1.8785E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6189E+16
Elemental I (atoms)	0.0000E+00	5.4193E+13
Organic I (atoms)	0.0000E+00	3.2964E+12
Aerosols (kg)	0.0000E+00	6.4041E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9434E+16
Elemental I (atoms)	0.0000E+00	9.8532E+13
Organic I (atoms)	0.0000E+00	5.9935E+12
Aerosols (kg)	0.0000E+00	1.1644E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	1.7355E+16	0.0000E+00
Elemental I (atoms)	6.7625E+13	0.0000E+00
Organic I (atoms)	3.5326E+12	0.0000E+00
Aerosols (kg)	8.1989E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7865E-03	2.9635E-01	1.7885E-02
Accumulated dose (rem)	1.0425E-02	6.5561E-01	3.6869E-02

CR Air Intake Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9970E-02	1.5349E+00	9.2633E-02
Accumulated dose (rem)	5.3994E-02	3.3956E+00	1.9095E-01

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9579E-04	9.8573E-01	4.0178E-02
Accumulated dose (rem)	9.7838E-04	1.8282E+00	7.4269E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8004E+05	4.5889E-01	3.2512E+24	5.5807E+18
Kr-85m	2.4181E+06	2.9383E-04	2.0818E+21	7.7155E+19
Kr-87	3.7371E+06	1.3193E-04	9.1325E+20	1.2863E+20
Kr-88	6.3435E+06	5.0589E-04	3.4620E+21	2.0587E+20
Rb-86	1.3045E+03	1.6032E-05	1.1226E+20	1.1418E+17
Sr-89	6.0231E+04	2.0732E-03	1.4028E+22	1.2221E+18
Sr-90	9.4775E+03	6.9479E-02	4.6490E+23	1.9228E+17
Sr-91	7.2807E+04	2.0085E-05	1.3292E+20	1.4858E+18
Sr-92	6.8221E+04	5.4275E-06	3.5528E+19	1.4129E+18
Y-90	1.0761E+02	1.9780E-07	1.3235E+18	2.0108E+15
Y-91	7.7953E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0955E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9180E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1632E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4906E-07	3.4088E+18	2.1366E+16
Nb-95	1.1095E+03	2.8375E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0112E-05	1.8317E+20	2.9326E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4923E+19	2.6046E+17
Ru-103	1.2515E+04	3.8776E-04	2.2672E+21	2.5392E+17
Ru-105	7.9156E+03	1.1776E-06	6.7537E+18	1.6262E+17
Ru-106	5.4608E+03	1.6322E-03	9.2732E+21	1.1079E+17
Rh-105	8.2268E+03	9.7467E-06	5.5901E+19	1.6678E+17
Sb-127	1.3743E+04	5.1460E-05	2.4402E+20	2.7898E+17
Sb-129	4.5176E+04	8.0335E-06	3.7503E+19	9.2845E+17
Te-127	1.3712E+04	5.1955E-06	2.4636E+19	2.7733E+17
Te-127m	2.3501E+03	2.4915E-04	1.1814E+21	4.7680E+16
Te-129	4.6519E+04	2.2213E-06	1.0370E+19	9.2624E+17
Te-129m	9.6706E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0919E+04	3.8774E-05	1.7825E+20	6.2846E+17
Te-132	2.2022E+05	7.2537E-04	3.3093E+21	4.4711E+18
I-131	8.4096E+05	6.7833E-03	3.1183E+22	6.2966E+19
I-132	1.1889E+06	1.1518E-04	5.2549E+20	8.9524E+19
I-133	1.7016E+06	1.5021E-03	6.8016E+21	1.2871E+20
I-134	1.1384E+06	4.2674E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3972E-04	1.9615E+21	1.1966E+20
Xe-133	2.0875E+07	1.1152E-01	5.0497E+23	6.4727E+20
Xe-135	7.3604E+06	2.8822E-03	1.2857E+22	2.2618E+20
Cs-134	1.7213E+05	1.3304E-01	5.9789E+23	1.5058E+19
Cs-136	4.6907E+04	6.4001E-04	2.8340E+21	4.1065E+18
Cs-137	1.3652E+05	1.5695E+00	6.8990E+24	1.1942E+19
Ba-139	8.0450E+04	4.9184E-06	2.1309E+19	1.6999E+18
Ba-140	1.1310E+05	1.5448E-03	6.6452E+21	2.2950E+18
La-140	1.3943E+03	2.5085E-06	1.0790E+19	2.5016E+16
La-141	9.1796E+02	1.6232E-07	6.9326E+17	1.8890E+16
La-142	7.4795E+02	5.2249E-08	2.2159E+17	1.5736E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	5.2756E+16
Ce-143	2.3934E+03	3.6040E-06	1.5178E+19	4.8640E+16
Ce-144	2.2344E+03	7.0054E-04	2.9297E+21	4.5332E+16
Pr-143	9.4036E+02	1.3965E-05	5.8809E+19	1.9072E+16
Nd-147	4.1766E+02	5.1627E-06	2.1150E+19	8.4754E+15
Np-239	3.0378E+04	1.3095E-04	3.2995E+20	6.1694E+17
Pu-238	8.0132E+00	4.6807E-04	1.1844E+21	1.6258E+14
Pu-239	7.5711E-01	1.2181E-02	3.0692E+22	1.5360E+13
Pu-240	1.3870E+00	6.0867E-03	1.5273E+22	2.8139E+13
Pu-241	3.0628E+02	2.9732E-03	7.4295E+21	6.2139E+15
Am-241	2.0112E-01	5.8599E-05	1.4643E+20	4.0804E+12
Cm-242	5.1157E+01	1.5435E-05	3.8410E+19	1.0379E+15

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Cm-244                 2.9742E+00  3.6763E-05  9.0735E+19  6.0343E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    3.7755E+24  0.0000E+00
Elemental I (atoms)    1.9580E+21  1.1945E+22
Organic I (atoms)      3.5375E+20  0.0000E+00
Aerosols (kg)          1.8111E+00  1.2217E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.3758E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.5260E-04
Total I (Ci)                                   6.4142E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7017E+20
Elemental I (atoms)    0.0000E+00  3.8827E+17
Organic I (atoms)      0.0000E+00  4.1627E+16
Aerosols (kg)          0.0000E+00  4.0045E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7017E+20
Elemental I (atoms)    0.0000E+00  3.8827E+17
Organic I (atoms)      0.0000E+00  4.1627E+16
Aerosols (kg)          0.0000E+00  4.0045E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3486E+20
Elemental I (atoms)    0.0000E+00  1.9381E+17
Organic I (atoms)      0.0000E+00  2.0778E+16
Aerosols (kg)          0.0000E+00  1.9989E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.5562E+23
Elemental I (atoms)    0.0000E+00  1.3842E+21
Organic I (atoms)      0.0000E+00  1.4735E+20
Aerosols (kg)          0.0000E+00  1.4280E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6171E+23
Elemental I (atoms)    0.0000E+00  6.0694E+20
Organic I (atoms)      0.0000E+00  4.8326E+19
Aerosols (kg)          0.0000E+00  6.4249E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.4874E+00  3.7911E-06  2.6860E+19  5.5034E+10
Kr-85m                 2.0338E+01  2.4713E-09  1.7509E+16  7.5249E+11
Kr-87                  3.2934E+01  1.1627E-09  8.0481E+15  1.2185E+12
Kr-88                  5.3914E+01  4.2996E-09  2.9424E+16  1.9948E+12
Rb-86                  6.4411E-03  7.9160E-11  5.5432E+14  2.3832E+08
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Sr-89	1.0741E-02	3.6973E-10	2.5017E+15	3.9743E+08
Sr-90	1.6902E-03	1.2391E-08	8.2908E+16	6.2536E+07
Sr-91	1.3000E-02	3.5864E-12	2.3734E+13	4.8102E+08
Sr-92	1.2221E-02	9.7226E-13	6.3642E+12	4.5217E+08
Y-90	1.9996E-05	3.6753E-14	2.4592E+11	7.3985E+05
Y-91	1.3914E-04	5.6735E-12	3.7546E+13	5.1481E+06
Y-92	4.8149E-04	5.0039E-14	3.2755E+11	1.7815E+07
Y-93	1.0566E-04	3.1671E-14	2.0508E+11	3.9096E+06
Zr-95	1.9781E-04	9.2079E-12	5.8370E+13	7.3190E+06
Zr-97	1.8732E-04	9.7987E-14	6.0834E+11	6.9308E+06
Nb-95	1.9787E-04	5.0602E-12	3.2077E+13	7.3211E+06
Mo-99	2.5760E-03	5.3709E-12	3.2671E+13	9.5312E+07
Tc-99m	2.3005E-03	4.3750E-13	2.6613E+12	8.5117E+07
Ru-103	2.2318E-03	6.9152E-11	4.0432E+14	8.2577E+07
Ru-105	1.4155E-03	2.1057E-13	1.2077E+12	5.2372E+07
Ru-106	9.7385E-04	2.9109E-10	1.6537E+15	3.6032E+07
Rh-105	1.4671E-03	1.7382E-12	9.9692E+12	5.4284E+07
Sb-127	2.4511E-03	9.1783E-12	4.3522E+13	9.0690E+07
Sb-129	8.0790E-03	1.4367E-12	6.7069E+12	2.9892E+08
Te-127	2.4453E-03	9.2655E-13	4.3935E+12	9.0475E+07
Te-127m	4.1910E-04	4.4432E-11	2.1069E+14	1.5507E+07
Te-129	8.3044E-03	3.9654E-13	1.8512E+12	3.0726E+08
Te-129m	1.7246E-03	5.7247E-11	2.6725E+14	6.3810E+07
Te-131m	5.5161E-03	6.9176E-12	3.1800E+13	2.0410E+08
Te-132	3.9278E-02	1.2938E-10	5.9025E+14	1.4533E+09
I-131	4.8757E+00	3.9328E-08	1.8079E+17	1.8040E+11
I-132	6.3627E+00	6.1641E-10	2.8122E+15	2.3542E+11
I-133	9.9175E+00	8.7548E-09	3.9641E+16	3.6695E+11
I-134	7.5820E+00	2.8422E-10	1.2773E+15	2.8053E+11
I-135	9.1093E+00	2.5939E-09	1.1571E+16	3.3705E+11
Xe-133	1.7240E+02	9.2105E-07	4.1704E+18	6.3789E+12
Xe-135	5.9483E+01	2.3293E-08	1.0391E+17	2.2009E+12
Cs-134	8.4968E-01	6.5672E-07	2.9514E+18	3.1438E+10
Cs-136	2.3164E-01	3.1605E-09	1.3995E+16	8.5706E+09
Cs-137	6.7389E-01	7.7475E-06	3.4056E+19	2.4934E+10
Ba-139	1.4475E-02	8.8492E-13	3.8339E+12	5.3556E+08
Ba-140	2.0170E-02	2.7551E-10	1.1851E+15	7.4628E+08
La-140	2.6391E-04	4.7481E-13	2.0424E+12	9.7647E+06
La-141	1.6421E-04	2.9036E-14	1.2401E+11	6.0757E+06
La-142	1.3444E-04	9.3918E-15	3.9830E+10	4.9745E+06
Ce-141	4.6371E-04	1.6274E-11	6.9508E+13	1.7157E+07
Ce-143	4.2698E-04	6.4296E-13	2.7077E+12	1.5798E+07
Ce-144	3.9846E-04	1.2493E-10	5.2246E+14	1.4743E+07
Pr-143	1.6772E-04	2.4907E-12	1.0489E+13	6.2057E+06
Nd-147	7.4486E-05	9.2073E-13	3.7719E+12	2.7560E+06
Np-239	5.4187E-03	2.3357E-11	5.8854E+13	2.0049E+08
Pu-238	1.4290E-06	8.3473E-11	2.1121E+14	5.2874E+04
Pu-239	1.3502E-07	2.1722E-09	5.4734E+15	4.9957E+03
Pu-240	2.4734E-07	1.0855E-09	2.7237E+15	9.1517E+03
Pu-241	5.4620E-05	5.3022E-10	1.3249E+15	2.0209E+06
Am-241	3.5867E-08	1.0450E-11	2.6113E+13	1.3271E+03
Cm-242	9.1230E-06	2.7526E-12	6.8499E+12	3.3755E+05
Cm-244	5.3041E-07	6.5561E-12	1.6181E+13	1.9625E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.1189E+19	1.2995E+16
Elemental I (atoms)	7.4352E+16	3.0979E+13
Organic I (atoms)	5.9136E+15	2.4639E+12
Aerosols (kg)	8.4592E-06	3.5245E-09

Dose Effective (Ci) I-131 (Thyroid)	6.8356E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.6432E+00
Total I (Ci)	3.7847E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2713E+19
Elemental I (atoms)    3.8370E+15  5.2259E+16
Organic I (atoms)      0.0000E+00  4.2481E+15
Aerosols (kg)          5.2247E-05  7.2463E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4598E+18
Elemental I (atoms)    3.4289E+15  1.9476E+16
Organic I (atoms)      0.0000E+00  1.4741E+15
Aerosols (kg)          4.7551E-06  1.1725E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0237E+18
Elemental I (atoms)    4.8813E+14  2.7726E+15
Organic I (atoms)      0.0000E+00  2.0289E+14
Aerosols (kg)          3.5428E-07  4.3653E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.2103E+16
Elemental I (atoms)    0.0000E+00  1.0055E+14
Organic I (atoms)      0.0000E+00  7.9974E+12
Aerosols (kg)          0.0000E+00  1.1418E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6551E+16
Elemental I (atoms)    0.0000E+00  1.8283E+14
Organic I (atoms)      0.0000E+00  1.4541E+13
Aerosols (kg)          0.0000E+00  2.0760E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    5.1712E+16  0.0000E+00
Elemental I (atoms)    1.5019E+14  0.0000E+00
Organic I (atoms)      1.0229E+13  0.0000E+00
Aerosols (kg)          1.7538E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.7640E-01  6.4887E+00  7.8290E-01
Accumulated dose (rem)  4.8682E-01  7.1444E+00  8.1977E-01

CR Air Intake Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4674E+00  3.3607E+01  4.0549E+00
Accumulated dose (rem)  2.5214E+00  3.7003E+01  4.2458E+00

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.0789E-02	7.1486E+00	3.5130E-01
Accumulated dose (rem)	4.1767E-02	8.9769E+00	4.2557E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.2660E+05	2.3618E+00	1.6733E+25	1.0811E+20
Kr-85m	1.0125E+07	1.2303E-03	8.7169E+21	1.2954E+21
Kr-87	9.2989E+06	3.2829E-04	2.2724E+21	1.5303E+21
Kr-88	2.3579E+07	1.8804E-03	1.2868E+22	3.1875E+21
Rb-86	1.3607E+03	1.6723E-05	1.1710E+20	3.5390E+17
Sr-89	6.8959E+04	2.3736E-03	1.6061E+22	1.3203E+19
Sr-90	1.0859E+04	7.9607E-02	5.3267E+23	2.0782E+18
Sr-91	7.5687E+04	2.0879E-05	1.3817E+20	1.5284E+19
Sr-92	5.5579E+04	4.4218E-06	2.8944E+19	1.2893E+19
Y-90	1.2405E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9277E+02	3.6404E-05	2.4091E+20	1.7079E+17
Y-92	1.9925E+03	2.0707E-07	1.3555E+18	3.3236E+17
Y-93	6.1878E+02	1.8547E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9123E-05	3.7479E+20	2.4316E+17
Zr-97	1.1386E+03	5.9563E-07	3.6979E+18	2.2456E+17
Nb-95	1.2713E+03	3.2511E-05	2.0609E+20	2.4329E+17
Mo-99	1.6317E+04	3.4022E-05	2.0695E+20	3.1468E+18
Tc-99m	1.4738E+04	2.8028E-06	1.7049E+19	2.8197E+18
Ru-103	1.4325E+04	4.4386E-04	2.5951E+21	2.7429E+18
Ru-105	7.3652E+03	1.0957E-06	6.2841E+18	1.5829E+18
Ru-106	6.2562E+03	1.8700E-03	1.0624E+22	1.1974E+18
Rh-105	9.3941E+03	1.1130E-05	6.3833E+19	1.8012E+18
Sb-127	1.5589E+04	5.8375E-05	2.7681E+20	2.9998E+18
Sb-129	4.1792E+04	7.4319E-06	3.4694E+19	9.0115E+18
Te-127	1.5691E+04	5.9455E-06	2.8193E+19	3.0012E+18
Te-127m	2.6927E+03	2.8547E-04	1.3537E+21	5.1532E+17
Te-129	4.7599E+04	2.2729E-06	1.0611E+19	9.6471E+18
Te-129m	1.1079E+04	3.6778E-04	1.7169E+21	2.1205E+18
Te-131m	3.4351E+04	4.3079E-05	1.9804E+20	6.6861E+18
Te-132	2.4936E+05	8.2135E-04	3.7472E+21	4.8031E+19
I-131	9.0723E+05	7.3179E-03	3.3641E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6724E+20	3.1411E+20
I-133	1.7631E+06	1.5564E-03	7.0472E+21	4.4241E+20
I-134	4.2970E+05	1.6108E-05	7.2391E+19	2.4434E+20
I-135	1.4544E+06	4.1414E-04	1.8474E+21	3.9116E+20
Xe-133	1.0709E+08	5.7214E-01	2.5906E+24	1.2514E+22
Xe-135	3.8692E+07	1.5151E-02	6.7587E+22	4.4890E+21
Cs-134	1.7991E+05	1.3905E-01	6.2491E+23	4.6721E+19
Cs-136	4.8886E+04	6.6701E-04	2.9535E+21	1.2723E+19
Cs-137	1.4269E+05	1.6405E+00	7.2111E+24	3.7055E+19
Ba-139	4.7144E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5909E+21	2.4765E+19
La-140	1.6097E+03	2.8961E-06	1.2458E+19	2.9264E+17
La-141	8.3137E+02	1.4701E-07	6.2787E+17	1.8145E+17
La-142	4.7058E+02	3.2873E-08	1.3941E+17	1.2730E+17
Ce-141	2.9786E+03	1.0454E-04	4.4648E+20	5.7012E+17
Ce-143	2.6665E+03	4.0154E-06	1.6910E+19	5.1821E+17
Ce-144	2.5597E+03	8.0255E-04	3.3563E+21	4.8991E+17
Pr-143	1.0775E+03	1.6001E-05	6.7384E+19	2.0617E+17
Nd-147	4.7686E+02	5.8946E-06	2.4148E+19	9.1436E+16
Np-239	3.4242E+04	1.4760E-04	3.7192E+20	6.6122E+18
Pu-238	9.1815E+00	5.3631E-04	1.3570E+21	1.7571E+15
Pu-239	8.6763E-01	1.3959E-02	3.5172E+22	1.6603E+14
Pu-240	1.5891E+00	6.9740E-03	1.7499E+22	3.0413E+14
Pu-241	3.5092E+02	3.4066E-03	8.5125E+21	6.7159E+16
Am-241	2.3048E-01	6.7152E-05	1.6780E+20	4.4104E+13
Cm-242	5.8600E+01	1.7681E-05	4.3999E+19	1.1216E+16
Cm-244	3.4078E+00	4.2122E-05	1.0396E+20	6.5218E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9415E+25	0.0000E+00	
Elemental I (atoms)	2.0418E+21	5.2662E+22	
Organic I (atoms)	1.1387E+21	0.0000E+00	
Aerosols (kg)	1.9030E+00	4.9870E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6500E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7733E-04
Total I (Ci)			5.8378E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1130E+21
Elemental I (atoms)	0.0000E+00	7.0298E+17
Organic I (atoms)	0.0000E+00	2.1054E+17
Aerosols (kg)	0.0000E+00	6.7074E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2013E+25
Elemental I (atoms)	0.0000E+00	4.9844E+21
Organic I (atoms)	0.0000E+00	1.4891E+21
Aerosols (kg)	0.0000E+00	4.7572E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2731E+25
Elemental I (atoms)	0.0000E+00	3.6478E+21
Organic I (atoms)	0.0000E+00	9.1397E+20
Aerosols (kg)	0.0000E+00	3.5375E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.1958E+02	3.0478E-04	2.1593E+21	4.4243E+12
Kr-85m	1.3941E+03	1.6940E-07	1.2001E+18	5.1580E+13
Kr-87	1.5255E+03	5.3857E-08	3.7280E+17	5.6444E+13
Kr-88	3.3740E+03	2.6908E-07	1.8414E+18	1.2484E+14
Rb-86	5.6262E-02	6.9146E-10	4.8419E+15	2.0817E+09
Sr-89	1.5987E+00	5.5028E-08	3.7235E+17	5.9152E+10

Sr-90	2.5168E-01	1.8451E-06	1.2346E+19	9.3121E+09
Sr-91	1.8169E+00	5.0122E-10	3.3170E+15	6.7226E+10
Sr-92	1.4608E+00	1.1622E-10	7.6076E+14	5.4051E+10
Y-90	4.1129E-03	7.5596E-12	5.0583E+13	1.5218E+08
Y-91	2.0872E-02	8.5108E-10	5.6323E+15	7.7226E+08
Y-92	1.8083E-01	1.8793E-11	1.2301E+14	6.6907E+09
Y-93	1.4823E-02	4.4429E-12	2.8770E+13	5.4845E+08
Zr-95	2.9444E-02	1.3706E-09	8.6883E+15	1.0894E+09
Zr-97	2.6915E-02	1.4079E-11	8.7409E+13	9.9584E+08
Nb-95	2.9464E-02	7.5350E-10	4.7765E+15	1.0902E+09
Mo-99	3.8009E-01	7.9249E-10	4.8207E+15	1.4063E+10
Tc-99m	3.4199E-01	6.5039E-11	3.9563E+14	1.2654E+10
Ru-103	3.3213E-01	1.0291E-08	6.0168E+16	1.2289E+10
Ru-105	1.8416E-01	2.7397E-11	1.5713E+14	6.8140E+09
Ru-106	1.4501E-01	4.3342E-08	2.4624E+17	5.3652E+09
Rh-105	2.1808E-01	2.5837E-10	1.4818E+15	8.0688E+09
Sb-127	3.6261E-01	1.3578E-09	6.4386E+15	1.3417E+10
Sb-129	1.0472E+00	1.8623E-10	8.6938E+14	3.8748E+10
Te-127	3.6386E-01	1.3787E-10	6.5376E+14	1.3463E+10
Te-127m	6.2409E-02	6.6163E-09	3.1374E+16	2.3091E+09
Te-129	1.1550E+00	5.5150E-11	2.5746E+14	4.2734E+10
Te-129m	2.5680E-01	8.5244E-09	3.9795E+16	9.5016E+09
Te-131m	8.0502E-01	1.0095E-09	4.6409E+15	2.9786E+10
Te-132	5.8039E+00	1.9117E-08	8.7217E+16	2.1474E+11
I-131	5.2930E+01	4.2694E-07	1.9627E+18	1.9584E+12
I-132	6.3827E+01	6.1835E-09	2.8210E+16	2.3616E+12
I-133	1.0486E+02	9.2566E-08	4.1913E+17	3.8798E+12
I-134	4.3611E+01	1.6348E-09	7.3470E+15	1.6136E+12
I-135	9.0519E+01	2.5775E-08	1.1498E+17	3.3492E+12
Xe-133	1.3817E+04	7.3816E-05	3.3423E+20	5.1123E+14
Xe-135	4.7915E+03	1.8763E-06	8.3698E+18	1.7728E+14
Cs-134	7.4313E+00	5.7437E-06	2.5813E+19	2.7496E+11
Cs-136	2.0222E+00	2.7591E-08	1.2218E+17	7.4821E+10
Cs-137	5.8940E+00	6.7761E-05	2.9786E+20	2.1808E+11
Ba-139	1.4093E+00	8.6159E-11	3.7328E+14	5.2144E+10
Ba-140	2.9975E+00	4.0945E-08	1.7612E+17	1.1091E+11
La-140	6.0709E-02	1.0922E-10	4.6982E+14	2.2462E+09
La-141	2.0998E-02	3.7129E-12	1.5858E+13	7.7693E+08
La-142	1.3674E-02	9.5521E-13	4.0510E+12	5.0593E+08
Ce-141	6.9029E-02	2.4226E-09	1.0347E+16	2.5541E+09
Ce-143	6.2427E-02	9.4004E-11	3.9588E+14	2.3098E+09
Ce-144	5.9330E-02	1.8602E-08	7.7793E+16	2.1952E+09
Pr-143	2.5010E-02	3.7140E-10	1.5641E+15	9.2536E+08
Nd-147	1.1066E-02	1.3679E-10	5.6039E+14	4.0945E+08
Np-239	7.9830E-01	3.4411E-09	8.6706E+15	2.9537E+10
Pu-238	2.1280E-04	1.2430E-08	3.1452E+16	7.8735E+06
Pu-239	2.0108E-05	3.2350E-07	8.1513E+17	7.4399E+05
Pu-240	3.6832E-05	1.6164E-07	4.0558E+17	1.3628E+06
Pu-241	8.1334E-03	7.8955E-08	1.9729E+17	3.0093E+08
Am-241	5.3419E-06	1.5564E-09	3.8892E+15	1.9765E+05
Cm-242	1.3583E-03	4.0983E-10	1.0199E+15	5.0257E+07
Cm-244	7.8983E-05	9.7627E-10	2.4095E+15	2.9224E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.5053E+21	3.4796E+17
Elemental I (atoms)	8.1961E+17	1.1384E+14
Organic I (atoms)	1.9430E+17	2.6986E+13
Aerosols (kg)	7.6507E-05	1.0626E-08

Dose Effective (Ci) I-131 (Thyroid)	7.3428E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.1533E+01
Total I (Ci)	3.5575E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4430E+21
Elemental I (atoms)    3.3333E+16  4.5400E+17
Organic I (atoms)      0.0000E+00  1.0853E+17
Aerosols (kg)          4.2075E-04  5.8354E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0897E+20
Elemental I (atoms)    5.4104E+16  3.0731E+17
Organic I (atoms)      0.0000E+00  7.3024E+16
Aerosols (kg)          7.0097E-05  1.7284E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5337E+20
Elemental I (atoms)    1.0347E+16  5.8771E+16
Organic I (atoms)      0.0000E+00  1.2822E+16
Aerosols (kg)          7.0796E-06  8.7233E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7745E+18
Elemental I (atoms)    8.1515E+14  1.0879E+14
Organic I (atoms)      2.0603E+14  1.0078E+13
Aerosols (kg)          7.4398E-08  1.2170E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7616E+17
Elemental I (atoms)    0.0000E+00  3.6351E+14
Organic I (atoms)      0.0000E+00  6.0210E+13
Aerosols (kg)          0.0000E+00  3.7251E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.5174E+18  0.0000E+00
Elemental I (atoms)    3.6381E+14  0.0000E+00
Organic I (atoms)      4.2562E+13  0.0000E+00
Aerosols (kg)          3.9623E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.5165E-02  8.8242E-01  1.3773E-01
Accumulated dose (rem)  5.8199E-01  8.0268E+00  9.5750E-01

CR Air Intake Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.0189E-01  3.7265E+00  5.8165E-01
Accumulated dose (rem)  2.9233E+00  4.0729E+01  4.8275E+00

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	1.5448E-02	1.0843E+00	6.6380E-02
Accumulated dose (rem)	5.7215E-02	1.0061E+01	4.9195E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.7632E+05	2.2336E+00	1.5825E+25	1.3174E+20
Kr-85m	9.2840E+06	1.1281E-03	7.9927E+21	1.5496E+21
Kr-87	7.8860E+06	2.7841E-04	1.9271E+21	1.7550E+21
Kr-88	2.1237E+07	1.6936E-03	1.1590E+22	3.7744E+21
Rb-86	1.3979E+02	1.7180E-06	1.2030E+19	3.6040E+17
Sr-89	6.9257E+03	2.3839E-04	1.6130E+21	1.3528E+19
Sr-90	1.0907E+03	7.9960E-03	5.3503E+22	2.1294E+18
Sr-91	7.4922E+03	2.0668E-06	1.3678E+19	1.5639E+19
Sr-92	5.3042E+03	4.2199E-07	2.7623E+18	1.3150E+19
Y-90	1.7379E+01	3.1944E-08	2.1374E+17	2.3584E+16
Y-91	9.0335E+01	3.6836E-06	2.4377E+19	1.7502E+17
Y-92	6.4165E+02	6.6684E-08	4.3650E+17	3.4943E+17
Y-93	6.1305E+01	1.8375E-08	1.1899E+17	1.2745E+17
Zr-95	1.2757E+02	5.9380E-06	3.7642E+19	2.4915E+17
Zr-97	1.1343E+02	5.9338E-08	3.6839E+17	2.2992E+17
Nb-95	1.2769E+02	3.2655E-06	2.0700E+19	2.4929E+17
Mo-99	1.6355E+03	3.4101E-06	2.0743E+19	3.2237E+18
Tc-99m	1.4796E+03	2.8138E-07	1.7116E+18	2.8889E+18
Ru-103	1.4386E+03	4.4576E-05	2.6062E+20	2.8106E+18
Ru-105	7.1704E+02	1.0667E-07	6.1180E+17	1.6173E+18
Ru-106	6.2838E+02	1.8783E-04	1.0671E+21	1.2269E+18
Rh-105	9.4273E+02	1.1169E-06	6.4059E+18	1.8455E+18
Sb-127	1.5635E+03	5.8546E-06	2.7762E+19	3.0733E+18
Sb-129	4.0652E+03	7.2290E-07	3.3748E+18	9.2063E+18
Te-127	1.5757E+03	5.9706E-07	2.8312E+18	3.0750E+18
Te-127m	2.7047E+02	2.8674E-05	1.3597E+20	5.2803E+17
Te-129	4.6954E+03	2.2421E-07	1.0467E+18	9.8647E+18
Te-129m	1.1128E+03	3.6940E-05	1.7245E+20	2.1727E+18
Te-131m	3.4345E+03	4.3070E-06	1.9800E+19	6.8479E+18
Te-132	2.5002E+04	8.2353E-05	3.7571E+20	4.9207E+19
I-131	1.1305E+05	9.1188E-04	4.1920E+21	2.2600E+20
I-132	1.4515E+05	1.4062E-05	6.4155E+19	3.2060E+20
I-133	2.1841E+05	1.9281E-04	8.7302E+20	4.5176E+20
I-134	4.5750E+04	1.7150E-06	7.7074E+18	2.4648E+20
I-135	1.7762E+05	5.0576E-05	2.2561E+20	3.9883E+20
Xe-133	1.0116E+08	5.4043E-01	2.4470E+24	1.5243E+22
Xe-135	3.5909E+07	1.4061E-02	6.2726E+22	5.4653E+21
Cs-134	1.8488E+04	1.4290E-02	6.4219E+22	4.7581E+19
Cs-136	5.0216E+03	6.8516E-05	3.0339E+20	1.2956E+19
Cs-137	1.4664E+04	1.6859E-01	7.4106E+23	3.7738E+19
Ba-139	4.2822E+03	2.6180E-07	1.1342E+18	1.3533E+19
Ba-140	1.2971E+04	1.7717E-04	7.6211E+20	2.5375E+19
La-140	2.5448E+02	4.5784E-07	1.9694E+18	3.0181E+17
La-141	8.0611E+01	1.4254E-08	6.0879E+16	1.8532E+17
La-142	4.3201E+01	3.0179E-09	1.2799E+16	1.2944E+17
Ce-141	2.9911E+02	1.0498E-05	4.4836E+19	5.8418E+17
Ce-143	2.6671E+02	4.0163E-07	1.6914E+18	5.3077E+17
Ce-144	2.5710E+02	8.0609E-05	3.3711E+20	5.0199E+17
Pr-143	1.0837E+02	1.6093E-06	6.7773E+18	2.1126E+17
Nd-147	4.7873E+01	5.9176E-07	2.4243E+18	9.3687E+16
Np-239	3.4310E+03	1.4789E-05	3.7265E+19	6.7736E+18
Pu-238	9.2222E-01	5.3869E-05	1.3630E+20	1.8005E+15
Pu-239	8.7149E-02	1.4021E-03	3.5329E+21	1.7012E+14
Pu-240	1.5962E-01	7.0049E-04	1.7577E+21	3.1163E+14
Pu-241	3.5248E+01	3.4217E-04	8.5502E+20	6.8815E+16
Am-241	2.3152E-02	6.7456E-06	1.6856E+19	4.5192E+13
Cm-242	5.8858E+00	1.7759E-06	4.4193E+18	1.1493E+16
Cm-244	3.4229E-01	4.2309E-06	1.0442E+19	6.6826E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8356E+25	0.0000E+00	
Elemental I (atoms)	2.0802E+20	5.4669E+22	
Organic I (atoms)	1.0799E+21	0.0000E+00	
Aerosols (kg)	1.9529E-01	5.1743E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.7789E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.1455E-05
Total I (Ci)			6.9998E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5292E+21
Elemental I (atoms)	0.0000E+00	7.1777E+17
Organic I (atoms)	0.0000E+00	2.3502E+17
Aerosols (kg)	0.0000E+00	6.8454E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7007E+25
Elemental I (atoms)	0.0000E+00	5.1618E+21
Organic I (atoms)	0.0000E+00	1.7828E+21
Aerosols (kg)	0.0000E+00	4.9229E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6674E+25
Elemental I (atoms)	0.0000E+00	4.1226E+21
Organic I (atoms)	0.0000E+00	1.1527E+21
Aerosols (kg)	0.0000E+00	3.9832E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.4652E+02	3.7345E-04	2.6458E+21	5.4211E+12
Kr-85m	1.6816E+03	2.0434E-07	1.4477E+18	6.2220E+13
Kr-87	1.7746E+03	6.2648E-08	4.3365E+17	6.5658E+13
Kr-88	4.0347E+03	3.2177E-07	2.2020E+18	1.4928E+14
Rb-86	6.2450E-02	7.6750E-10	5.3744E+15	2.3106E+09
Sr-89	1.8513E+00	6.3724E-08	4.3118E+17	6.8499E+10
Sr-90	2.9146E-01	2.1367E-06	1.4297E+19	1.0784E+10

Sr-91	2.0912E+00	5.7689E-10	3.8177E+15	7.7375E+10
Sr-92	1.6568E+00	1.3181E-10	8.6282E+14	6.1302E+10
Y-90	4.9049E-03	9.0153E-12	6.0324E+13	1.8148E+08
Y-91	2.4189E-02	9.8636E-10	6.5274E+15	8.9500E+08
Y-92	2.1940E-01	2.2801E-11	1.4925E+14	8.1176E+09
Y-93	1.7067E-02	5.1155E-12	3.3125E+13	6.3147E+08
Zr-95	3.4097E-02	1.5872E-09	1.0061E+16	1.2616E+09
Zr-97	3.1061E-02	1.6248E-11	1.0087E+14	1.1492E+09
Nb-95	3.4122E-02	8.7261E-10	5.5315E+15	1.2625E+09
Mo-99	4.3978E-01	9.1693E-10	5.5777E+15	1.6272E+10
Tc-99m	3.9597E-01	7.5304E-11	4.5807E+14	1.4651E+10
Ru-103	3.8460E-01	1.1917E-08	6.9674E+16	1.4230E+10
Ru-105	2.1052E-01	3.1318E-11	1.7962E+14	7.7893E+09
Ru-106	1.6793E-01	5.0193E-08	2.8516E+17	6.2133E+09
Rh-105	2.5247E-01	2.9912E-10	1.7155E+15	9.3414E+09
Sb-127	4.1966E-01	1.5714E-09	7.4515E+15	1.5527E+10
Sb-129	1.1967E+00	2.1281E-10	9.9347E+14	4.4278E+10
Te-127	4.2133E-01	1.5965E-10	7.5704E+14	1.5589E+10
Te-127m	7.2274E-02	7.6622E-09	3.6333E+16	2.6742E+09
Te-129	1.3270E+00	6.3366E-11	2.9581E+14	4.9100E+10
Te-129m	2.9739E-01	9.8718E-09	4.6085E+16	1.1003E+10
Te-131m	9.3043E-01	1.1668E-09	5.3640E+15	3.4426E+10
Te-132	6.7162E+00	2.2122E-08	1.0093E+17	2.4850E+11
I-131	5.9490E+01	4.7985E-07	2.2059E+18	2.2011E+12
I-132	7.1139E+01	6.8919E-09	3.1442E+16	2.6322E+12
I-133	1.1756E+02	1.0377E-07	4.6988E+17	4.3496E+12
I-134	4.6375E+01	1.7384E-09	7.8126E+15	1.7159E+12
I-135	1.0088E+02	2.8726E-08	1.2814E+17	3.7326E+12
Xe-133	1.6923E+04	9.0412E-05	4.0938E+20	6.2617E+14
Xe-135	5.8570E+03	2.2935E-06	1.0231E+19	2.1671E+14
Cs-134	8.2496E+00	6.3761E-06	2.8655E+19	3.0524E+11
Cs-136	2.2445E+00	3.0624E-08	1.3561E+17	8.3046E+10
Cs-137	6.5430E+00	7.5223E-05	3.3066E+20	2.4209E+11
Ba-139	1.5695E+00	9.5954E-11	4.1572E+14	5.8072E+10
Ba-140	3.4707E+00	4.7408E-08	2.0393E+17	1.2841E+11
La-140	7.2970E-02	1.3128E-10	5.6471E+14	2.6999E+09
La-141	2.3964E-02	4.2375E-12	1.8098E+13	8.8669E+08
La-142	1.5286E-02	1.0678E-12	4.5285E+12	5.6557E+08
Ce-141	7.9937E-02	2.8055E-09	1.1982E+16	2.9577E+09
Ce-143	7.2165E-02	1.0867E-10	4.5764E+14	2.6701E+09
Ce-144	6.8708E-02	2.1542E-08	9.0089E+16	2.5422E+09
Pr-143	2.8967E-02	4.3017E-10	1.8116E+15	1.0718E+09
Nd-147	1.2813E-02	1.5838E-10	6.4882E+14	4.7406E+08
Np-239	9.2353E-01	3.9809E-09	1.0031E+16	3.4170E+10
Pu-238	2.4643E-04	1.4395E-08	3.6423E+16	9.1181E+06
Pu-239	2.3286E-05	3.7464E-07	9.4399E+17	8.6160E+05
Pu-240	4.2654E-05	1.8719E-07	4.6969E+17	1.5782E+06
Pu-241	9.4190E-03	9.1436E-08	2.2848E+17	3.4850E+08
Am-241	6.1864E-06	1.8025E-09	4.5040E+15	2.2890E+05
Cm-242	1.5730E-03	4.7460E-10	1.1810E+15	5.8200E+07
Cm-244	9.1467E-05	1.1306E-09	2.7904E+15	3.3843E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.0695E+21	3.8757E+17
Elemental I (atoms)	9.1943E+17	1.1609E+14
Organic I (atoms)	2.3140E+17	2.9217E+13
Aerosols (kg)	8.5060E-05	1.0740E-08

Dose Effective (Ci) I-131 (Thyroid)	8.2448E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0266E+02
Total I (Ci)	3.9544E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7400E+21
Elemental I (atoms)    3.6936E+16  5.0306E+17
Organic I (atoms)      0.0000E+00  1.2755E+17
Aerosols (kg)          4.6508E-04  6.4504E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1345E+21
Elemental I (atoms)    6.1423E+16  3.4888E+17
Organic I (atoms)      0.0000E+00  8.8205E+16
Aerosols (kg)          7.9306E-05  1.9555E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9514E+20
Elemental I (atoms)    1.1998E+16  6.8146E+16
Organic I (atoms)      0.0000E+00  1.5773E+16
Aerosols (kg)          8.1827E-06  1.0082E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2826E+18
Elemental I (atoms)    9.0428E+14  1.0969E+14
Organic I (atoms)      2.3916E+14  1.0413E+13
Aerosols (kg)          8.2023E-08  1.2247E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.8766E+17
Elemental I (atoms)    0.0000E+00  3.8327E+14
Organic I (atoms)      0.0000E+00  6.7552E+13
Aerosols (kg)          0.0000E+00  3.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.1426E+18  0.0000E+00
Elemental I (atoms)    3.9602E+14  0.0000E+00
Organic I (atoms)      5.1242E+13  0.0000E+00
Aerosols (kg)          4.2600E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.0068E-02  4.4122E-01  7.1268E-02
Accumulated dose (rem)  6.3206E-01  8.4680E+00  1.0288E+00

CR Air Intake Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.1144E-01  1.8633E+00  3.0097E-01
Accumulated dose (rem)  3.1347E+00  4.2592E+01  5.1285E+00

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5025E-03  4.9921E-01  3.1052E-02
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Accumulated dose (rem) 6.4718E-02 1.0560E+01 5.2301E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.6125E+05	2.1952E+00	1.5553E+25	1.4321E+20
Kr-85m	8.9843E+06	1.0917E-03	7.7346E+21	1.6702E+21
Kr-87	7.3393E+06	2.5910E-04	1.7935E+21	1.8555E+21
Kr-88	2.0368E+07	1.6244E-03	1.1116E+22	4.0490E+21
Rb-86	8.7624E+01	1.0769E-06	7.5409E+18	3.6157E+17
Sr-89	4.3027E+03	1.4810E-04	1.0021E+21	1.3585E+19
Sr-90	6.7766E+02	4.9679E-03	3.3242E+22	2.1385E+18
Sr-91	4.6211E+03	1.2748E-06	8.4361E+18	1.5700E+19
Sr-92	3.2123E+03	2.5556E-07	1.6729E+18	1.3194E+19
Y-90	1.2162E+01	2.2353E-08	1.4957E+17	2.3736E+16
Y-91	5.6308E+01	2.2960E-06	1.5195E+19	1.7576E+17
Y-92	5.1266E+02	5.3278E-08	3.4875E+17	3.5547E+17
Y-93	3.7828E+01	1.1338E-08	7.3421E+16	1.2796E+17
Zr-95	7.9253E+01	3.6891E-06	2.3386E+19	2.5021E+17
Zr-97	7.0189E+01	3.6716E-08	2.2795E+17	2.3085E+17
Nb-95	7.9334E+01	2.0288E-06	1.2861E+19	2.5035E+17
Mo-99	1.0151E+03	2.1165E-06	1.2874E+19	3.2373E+18
Tc-99m	9.1903E+02	1.7478E-07	1.0632E+18	2.9010E+18
Ru-103	8.9376E+02	2.7693E-05	1.6191E+20	2.8225E+18
Ru-105	4.3860E+02	6.5248E-08	3.7422E+17	1.6231E+18
Ru-106	3.9041E+02	1.1670E-04	6.6298E+20	1.2321E+18
Rh-105	5.8544E+02	6.9361E-07	3.9781E+18	1.8533E+18
Sb-127	9.7067E+02	3.6348E-06	1.7235E+19	3.0863E+18
Sb-129	2.4855E+03	4.4199E-07	2.0634E+18	9.2397E+18
Te-127	9.7888E+02	3.7091E-07	1.7588E+18	3.0880E+18
Te-127m	1.6804E+02	1.7815E-05	8.4476E+19	5.3027E+17
Te-129	2.8902E+03	1.3801E-07	6.4427E+17	9.9024E+18
Te-129m	6.9138E+02	2.2950E-05	1.0714E+20	2.1820E+18
Te-131m	2.1289E+03	2.6698E-06	1.2273E+19	6.8763E+18
Te-132	1.5520E+04	5.1121E-05	2.3322E+20	4.9414E+19
I-131	7.8894E+04	6.3637E-04	2.9254E+21	2.2705E+20
I-132	9.6952E+04	9.3927E-06	4.2851E+19	3.2190E+20
I-133	1.5198E+05	1.3416E-04	6.0746E+20	4.5379E+20
I-134	2.9512E+04	1.1063E-06	4.9718E+18	2.4689E+20
I-135	1.2271E+05	3.4941E-05	1.5586E+20	4.0047E+20
Xe-133	9.9361E+07	5.3083E-01	2.4035E+24	1.6566E+22
Xe-135	3.4984E+07	1.3699E-02	6.1109E+22	5.9330E+21
Cs-134	1.1591E+04	8.9583E-03	4.0260E+22	4.7736E+19
Cs-136	3.1474E+03	4.2944E-05	1.9016E+20	1.2998E+19
Cs-137	9.1931E+03	1.0569E-01	4.6458E+23	3.7860E+19
Ba-139	2.5301E+03	1.5468E-07	6.7014E+17	1.3568E+19
Ba-140	8.0568E+03	1.1005E-04	4.7339E+20	2.5482E+19
La-140	1.8379E+02	3.3067E-07	1.4224E+18	3.0407E+17
La-141	4.9208E+01	8.7012E-09	3.7163E+16	1.8598E+17
La-142	2.5661E+01	1.7926E-09	7.6023E+15	1.2979E+17
Ce-141	1.8582E+02	6.5216E-06	2.7854E+19	5.8666E+17
Ce-143	1.6536E+02	2.4901E-07	1.0486E+18	5.3298E+17
Ce-144	1.5974E+02	5.0082E-05	2.0945E+20	5.0412E+17
Pr-143	6.7370E+01	1.0005E-06	4.2132E+18	2.1216E+17
Nd-147	2.9736E+01	3.6757E-07	1.5058E+18	9.4083E+16
Np-239	2.1291E+03	9.1774E-06	2.3124E+19	6.8020E+18
Pu-238	5.7298E-01	3.3469E-05	8.4686E+19	1.8081E+15
Pu-239	5.4147E-02	8.7114E-04	2.1950E+21	1.7084E+14
Pu-240	9.9172E-02	4.3522E-04	1.0921E+21	3.1295E+14
Pu-241	2.1900E+01	2.1259E-04	5.3122E+20	6.9107E+16
Am-241	1.4385E-02	4.1912E-06	1.0473E+19	4.5383E+13
Cm-242	3.6568E+00	1.1033E-06	2.7456E+18	1.1542E+16
Cm-244	2.1266E-01	2.6287E-06	6.4878E+18	6.7109E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8038E+25  0.0000E+00
Elemental I (atoms)    1.2993E+20  5.4908E+22
Organic I (atoms)      1.0617E+21  0.0000E+00
Aerosols (kg)          1.2236E-01  5.1967E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0277E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.9709E-05
Total I (Ci)                                   4.8004E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4673E+21
Elemental I (atoms)    0.0000E+00  1.4413E+18
Organic I (atoms)      0.0000E+00  4.9422E+17
Aerosols (kg)          0.0000E+00  1.3746E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4673E+21
Elemental I (atoms)    0.0000E+00  1.4413E+18
Organic I (atoms)      0.0000E+00  4.9422E+17
Aerosols (kg)          0.0000E+00  1.3746E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7302E+21
Elemental I (atoms)    0.0000E+00  7.1953E+17
Organic I (atoms)      0.0000E+00  2.4686E+17
Aerosols (kg)          0.0000E+00  6.8620E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9420E+25
Elemental I (atoms)    0.0000E+00  5.1830E+21
Organic I (atoms)      0.0000E+00  1.9249E+21
Aerosols (kg)          0.0000E+00  4.9427E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8772E+25
Elemental I (atoms)    0.0000E+00  4.3085E+21
Organic I (atoms)      0.0000E+00  1.2783E+21
Aerosols (kg)          0.0000E+00  4.1581E+00

Environment Integral Nuclide Release:

Time (h) =   2.3000       Ci           kg         Atoms         Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  1.6123E+02  4.1095E-04  2.9115E+21  5.9655E+12
Kr-85m                 1.8351E+03  2.2299E-07  1.5799E+18  6.7900E+13
Kr-87                  1.8999E+03  6.7075E-08  4.6429E+17  7.0298E+13
Kr-88                  4.3827E+03  3.4952E-07  2.3919E+18  1.6216E+14
Rb-86                  6.5497E-02  8.0496E-10  5.6367E+15  2.4234E+09
Sr-89                  1.9766E+00  6.8036E-08  4.6036E+17  7.3134E+10
Sr-90                  3.1119E-01  2.2814E-06  1.5265E+19  1.1514E+10
Sr-91                  2.2257E+00  6.1400E-10  4.0633E+15  8.2353E+10
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Sr-92	1.7503E+00	1.3925E-10	9.1152E+14	6.4762E+10
Y-90	5.3263E-03	9.7898E-12	6.5506E+13	1.9707E+08
Y-91	2.5838E-02	1.0536E-09	6.9724E+15	9.5601E+08
Y-92	2.4051E-01	2.4995E-11	1.6361E+14	8.8987E+09
Y-93	1.8168E-02	5.4456E-12	3.5262E+13	6.7222E+08
Zr-95	3.6405E-02	1.6946E-09	1.0742E+16	1.3470E+09
Zr-97	3.3104E-02	1.7317E-11	1.0751E+14	1.2249E+09
Nb-95	3.6432E-02	9.3168E-10	5.9060E+15	1.3480E+09
Mo-99	4.6933E-01	9.7856E-10	5.9525E+15	1.7365E+10
Tc-99m	4.2272E-01	8.0393E-11	4.8903E+14	1.5641E+10
Ru-103	4.1062E-01	1.2723E-08	7.4388E+16	1.5193E+10
Ru-105	2.2329E-01	3.3218E-11	1.9052E+14	8.2618E+09
Ru-106	1.7929E-01	5.3591E-08	3.0446E+17	6.6338E+09
Rh-105	2.6952E-01	3.1931E-10	1.8314E+15	9.9721E+09
Sb-127	4.4792E-01	1.6773E-09	7.9533E+15	1.6573E+10
Sb-129	1.2691E+00	2.2568E-10	1.0535E+15	4.6956E+10
Te-127	4.4983E-01	1.7045E-10	8.0824E+14	1.6644E+10
Te-127m	7.7167E-02	8.1809E-09	3.8792E+16	2.8552E+09
Te-129	1.4112E+00	6.7384E-11	3.1457E+14	5.2213E+10
Te-129m	3.1752E-01	1.0540E-08	4.9204E+16	1.1748E+10
Te-131m	9.9242E-01	1.2446E-09	5.7213E+15	3.6719E+10
Te-132	7.1680E+00	2.3611E-08	1.0772E+17	2.6522E+11
I-131	6.2777E+01	5.0637E-07	2.3278E+18	2.3227E+12
I-132	7.4693E+01	7.2362E-09	3.3013E+16	2.7637E+12
I-133	1.2389E+02	1.0937E-07	4.9520E+17	4.5840E+12
I-134	4.7605E+01	1.7845E-09	8.0198E+15	1.7614E+12
I-135	1.0600E+02	3.0182E-08	1.3464E+17	3.9218E+12
Xe-133	1.8619E+04	9.9470E-05	4.5039E+20	6.8890E+14
Xe-135	6.4349E+03	2.5198E-06	1.1240E+19	2.3809E+14
Cs-134	8.6528E+00	6.6877E-06	3.0055E+19	3.2015E+11
Cs-136	2.3540E+00	3.2118E-08	1.4222E+17	8.7096E+10
Cs-137	6.8628E+00	7.8899E-05	3.4682E+20	2.5392E+11
Ba-139	1.6432E+00	1.0046E-10	4.3523E+14	6.0798E+10
Ba-140	3.7052E+00	5.0612E-08	2.1771E+17	1.3709E+11
La-140	7.9588E-02	1.4319E-10	6.1593E+14	2.9448E+09
La-141	2.5397E-02	4.4908E-12	1.9180E+13	9.3969E+08
La-142	1.6033E-02	1.1200E-12	4.7499E+12	5.9322E+08
Ce-141	8.5346E-02	2.9953E-09	1.2793E+16	3.1578E+09
Ce-143	7.6980E-02	1.1592E-10	4.8817E+14	2.8482E+09
Ce-144	7.3358E-02	2.3000E-08	9.6187E+16	2.7143E+09
Pr-143	3.0931E-02	4.5933E-10	1.9344E+15	1.1444E+09
Nd-147	1.3678E-02	1.6908E-10	6.9267E+14	5.0610E+08
Np-239	9.8551E-01	4.2481E-09	1.0704E+16	3.6464E+10
Pu-238	2.6312E-04	1.5369E-08	3.8889E+16	9.7353E+06
Pu-239	2.4863E-05	4.0001E-07	1.0079E+18	9.1993E+05
Pu-240	4.5541E-05	1.9986E-07	5.0149E+17	1.6850E+06
Pu-241	1.0057E-02	9.7625E-08	2.4395E+17	3.7210E+08
Am-241	6.6052E-06	1.9245E-09	4.8090E+15	2.4439E+05
Cm-242	1.6794E-03	5.0673E-10	1.2610E+15	6.2139E+07
Cm-244	9.7659E-05	1.2071E-09	2.9793E+15	3.6134E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	3.3776E+21	4.0792E+17
Elemental I (atoms)	9.6933E+17	1.1707E+14
Organic I (atoms)	2.5137E+17	3.0359E+13
Aerosols (kg)	8.9275E-05	1.0782E-08

Dose Effective (Ci) I-131 (Thyroid)	8.6960E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0821E+02
Total I (Ci)	4.1496E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.8997E+21
Elemental I (atoms)    3.8677E+16  5.2678E+17
Organic I (atoms)      0.0000E+00  1.3767E+17
Aerosols (kg)          4.8656E-04  6.7482E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2594E+21
Elemental I (atoms)    6.5178E+16  3.7021E+17
Organic I (atoms)      0.0000E+00  9.6468E+16
Aerosols (kg)          8.4032E-05  2.0720E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1870E+20
Elemental I (atoms)    1.2866E+16  7.3081E+16
Organic I (atoms)      0.0000E+00  1.7406E+16
Aerosols (kg)          8.7631E-06  1.0798E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5601E+18
Elemental I (atoms)    9.4884E+14  1.1014E+14
Organic I (atoms)      2.5700E+14  1.0593E+13
Aerosols (kg)          8.5780E-08  1.2285E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.4855E+17
Elemental I (atoms)    0.0000E+00  3.9315E+14
Organic I (atoms)      0.0000E+00  7.1506E+13
Aerosols (kg)          0.0000E+00  3.9774E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    2.4574E+18  0.0000E+00
Elemental I (atoms)    4.1083E+14  0.0000E+00
Organic I (atoms)      5.5493E+13  0.0000E+00
Aerosols (kg)          4.3955E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.7696E-01  7.0662E+00  1.3079E+00
Accumulated dose (rem)  1.6090E+00  1.5534E+01  2.3367E+00

CR Air Intake Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1258E+00  2.9841E+01  5.5235E+00
Accumulated dose (rem)  7.2606E+00  7.2434E+01  1.0652E+01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3382E-01  6.5321E+00  4.4222E-01
Accumulated dose (rem)  1.9854E-01  1.7093E+01  9.6523E-01
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.2283E+05	2.0973E+00	1.4859E+25	3.3083E+20
Kr-85m	6.5982E+06	8.0177E-04	5.6804E+21	3.3922E+21
Kr-87	2.7759E+06	9.7999E-05	6.7835E+20	2.9002E+21
Kr-88	1.2851E+07	1.0249E-03	7.0135E+21	7.6843E+21
Rb-86	1.0688E+02	1.3135E-06	9.1977E+18	4.0061E+17
Sr-89	5.2374E+03	1.8027E-04	1.2198E+21	1.5497E+19
Sr-90	8.2567E+02	6.0530E-03	4.0502E+22	2.4397E+18
Sr-91	4.9736E+03	1.3720E-06	9.0797E+18	1.7645E+19
Sr-92	2.5338E+03	2.0158E-07	1.3195E+18	1.4377E+19
Y-90	2.9935E+01	5.5022E-08	3.6817E+17	3.1516E+16
Y-91	7.0459E+01	2.8731E-06	1.9013E+19	2.0109E+17
Y-92	1.3654E+03	1.4189E-07	9.2881E+17	7.2026E+17
Y-93	4.1015E+01	1.2294E-08	7.9606E+16	1.4392E+17
Zr-95	9.6489E+01	4.4915E-06	2.8472E+19	2.8542E+17
Zr-97	7.9759E+01	4.1722E-08	2.5903E+17	2.6110E+17
Nb-95	9.6660E+01	2.4719E-06	1.5670E+19	2.8561E+17
Mo-99	1.2149E+03	2.5331E-06	1.5409E+19	3.6849E+18
Tc-99m	1.1135E+03	2.1177E-07	1.2882E+18	3.3063E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2195E+18
Ru-105	4.0983E+02	6.0968E-08	3.4968E+17	1.7967E+18
Ru-106	4.7562E+02	1.4216E-04	8.0767E+20	1.4056E+18
Rh-105	7.0532E+02	8.3563E-07	4.7927E+18	2.1121E+18
Sb-127	1.1677E+03	4.3725E-06	2.0734E+19	3.5153E+18
Sb-129	2.3054E+03	4.0997E-07	1.9139E+18	1.0220E+19
Te-127	1.1898E+03	4.5084E-07	2.1378E+18	3.5211E+18
Te-127m	2.0475E+02	2.1707E-05	1.0293E+20	6.0496E+17
Te-129	2.9459E+03	1.4067E-07	6.5667E+17	1.1064E+19
Te-129m	8.4201E+02	2.7950E-05	1.3048E+20	2.4892E+18
Te-131m	2.4940E+03	3.1276E-06	1.4378E+19	7.8061E+18
Te-132	1.8627E+04	6.1355E-05	2.7991E+20	5.6266E+19
I-131	9.8982E+04	7.9840E-04	3.6703E+21	2.5831E+20
I-132	8.1463E+04	7.8920E-06	3.6005E+19	3.5363E+20
I-133	1.8125E+05	1.6000E-04	7.2448E+20	5.1261E+20
I-134	9.7132E+03	3.6411E-07	1.6364E+18	2.5361E+20
I-135	1.2959E+05	3.6900E-05	1.6460E+20	4.4541E+20
Xe-133	9.4035E+07	5.0237E-01	2.2747E+24	3.8109E+22
Xe-135	2.9295E+07	1.1472E-02	5.1173E+22	1.3068E+22
Cs-134	1.4173E+04	1.0955E-02	4.9231E+22	5.2905E+19
Cs-136	3.8346E+03	5.2321E-05	2.3168E+20	1.4400E+19
Cs-137	1.1242E+04	1.2925E-01	5.6815E+23	4.1960E+19
Ba-139	1.3111E+03	8.0158E-08	3.4728E+17	1.4355E+19
Ba-140	9.7788E+03	1.3357E-04	5.7457E+20	2.9057E+19
La-140	5.0614E+02	9.1061E-07	3.9170E+18	4.3020E+17
La-141	4.4424E+01	7.8552E-09	3.3550E+16	2.0516E+17
La-142	1.4559E+01	1.0170E-09	4.3131E+15	1.3806E+17
Ce-141	2.2614E+02	7.9366E-06	3.3897E+19	6.6921E+17
Ce-143	1.9441E+02	2.9275E-07	1.2329E+18	6.0532E+17
Ce-144	1.9459E+02	6.1011E-05	2.5515E+20	5.7512E+17
Pr-143	8.2513E+01	1.2253E-06	5.1603E+18	2.4217E+17
Nd-147	3.6069E+01	4.4585E-07	1.8265E+18	1.0727E+17
Np-239	2.5406E+03	1.0951E-05	2.7594E+19	7.7396E+18
Pu-238	6.9813E-01	4.0779E-05	1.0318E+20	2.0628E+15
Pu-239	6.5988E-02	1.0616E-03	2.6750E+21	1.9491E+14
Pu-240	1.2083E-01	5.3028E-04	1.3306E+21	3.5703E+14
Pu-241	2.6683E+01	2.5902E-04	6.4725E+20	7.8841E+16
Am-241	1.7535E-02	5.1091E-06	1.2767E+19	5.1779E+13
Cm-242	4.4541E+00	1.3439E-06	3.3443E+18	1.3167E+16
Cm-244	2.5911E-01	3.2028E-06	7.9047E+18	7.6562E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    1.7198E+25  0.0000E+00
Elemental I (atoms)    5.7118E+20  5.4908E+22
Organic I (atoms)      9.9405E+20  0.0000E+00
Aerosols (kg)          1.4959E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.9589E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.9965E-05
Total I (Ci)                                   5.0100E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3972E+22
Elemental I (atoms)    0.0000E+00  1.6288E+18
Organic I (atoms)      0.0000E+00  8.7442E+17
Aerosols (kg)          0.0000E+00  1.4648E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3972E+22
Elemental I (atoms)    0.0000E+00  1.6288E+18
Organic I (atoms)      0.0000E+00  8.7442E+17
Aerosols (kg)          0.0000E+00  1.4648E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.9918E+21
Elemental I (atoms)    0.0000E+00  8.1351E+17
Organic I (atoms)      0.0000E+00  4.3750E+17
Aerosols (kg)          0.0000E+00  7.3146E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8559E+25
Elemental I (atoms)    0.0000E+00  6.3107E+21
Organic I (atoms)      0.0000E+00  4.2126E+21
Aerosols (kg)          0.0000E+00  5.4858E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7122E+25
Elemental I (atoms)    0.0000E+00  5.8907E+21
Organic I (atoms)      0.0000E+00  3.5253E+21
Aerosols (kg)          0.0000E+00  5.3425E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  5.2012E+02  1.3257E-03  9.3925E+21  1.9245E+13
Kr-85m                 5.0639E+03  6.1533E-07  4.3596E+18  1.8736E+14
Kr-87                  3.7617E+03  1.3280E-07  9.1925E+17  1.3918E+14
Kr-88                  1.1120E+04  8.8684E-07  6.0690E+18  4.1145E+14
Rb-86                  1.1024E-01  1.3549E-09  9.4875E+15  4.0790E+09
Sr-89                  3.8589E+00  1.3283E-07  8.9876E+17  1.4278E+11
Sr-90                  6.0779E-01  4.4557E-06  2.9815E+19  2.2488E+10
Sr-91                  4.1262E+00  1.1383E-09  7.5328E+15  1.5267E+11
Sr-92                  2.8869E+00  2.2967E-10  1.5034E+15  1.0681E+11
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Y-90	1.4236E-02	2.6166E-11	1.7508E+14	5.2673E+08
Y-91	5.0945E-02	2.0774E-09	1.3748E+16	1.8850E+09
Y-92	6.8700E-01	7.1396E-11	4.6734E+14	2.5419E+10
Y-93	3.3783E-02	1.0126E-11	6.5568E+13	1.2500E+09
Zr-95	7.1079E-02	3.3086E-09	2.0974E+16	2.6299E+09
Zr-97	6.2763E-02	3.2832E-11	2.0383E+14	2.3222E+09
Nb-95	7.1154E-02	1.8197E-09	1.1535E+16	2.6327E+09
Mo-99	9.0962E-01	1.8966E-09	1.1537E+16	3.3656E+10
Tc-99m	8.2391E-01	1.5669E-10	9.5314E+14	3.0485E+10
Ru-103	8.0156E-01	2.4836E-08	1.4521E+17	2.9658E+10
Ru-105	3.9158E-01	5.8253E-11	3.3410E+14	1.4488E+10
Ru-106	3.5016E-01	1.0466E-07	5.9462E+17	1.2956E+10
Rh-105	5.2441E-01	6.2130E-10	3.5634E+15	1.9403E+10
Sb-127	8.7003E-01	3.2579E-09	1.5448E+16	3.2191E+10
Sb-129	2.2193E+00	3.9466E-10	1.8424E+15	8.2115E+10
Te-127	8.7779E-01	3.3261E-10	1.5772E+15	3.2478E+10
Te-127m	1.5072E-01	1.5978E-08	7.5767E+16	5.5765E+09
Te-129	2.5712E+00	1.2277E-10	5.7315E+14	9.5134E+10
Te-129m	6.2006E-01	2.0583E-08	9.6087E+16	2.2942E+10
Te-131m	1.9059E+00	2.3901E-09	1.0987E+16	7.0518E+10
Te-132	1.3909E+01	4.5815E-08	2.0902E+17	5.1464E+11
I-131	1.1605E+02	9.3607E-07	4.3032E+18	4.2938E+12
I-132	1.2282E+02	1.1899E-08	5.4286E+16	4.5445E+12
I-133	2.2387E+02	1.9763E-07	8.9484E+17	8.2833E+12
I-134	5.8291E+01	2.1851E-09	9.8200E+15	2.1568E+12
I-135	1.8186E+02	5.1784E-08	2.3100E+17	6.7288E+12
Xe-133	5.9775E+04	3.1934E-04	1.4460E+21	2.2117E+15
Xe-135	1.9728E+04	7.7251E-06	3.4461E+19	7.2993E+14
Cs-134	1.4579E+01	1.1268E-05	5.0641E+19	5.3943E+11
Cs-136	3.9603E+00	5.4035E-08	2.3927E+17	1.4653E+11
Cs-137	1.1564E+01	1.3294E-04	5.8437E+20	4.2785E+11
Ba-139	2.3826E+00	1.4566E-10	6.3109E+14	8.8157E+10
Ba-140	7.2247E+00	9.8686E-08	4.2450E+17	2.6731E+11
La-140	2.2716E-01	4.0869E-10	1.7580E+15	8.4050E+09
La-141	4.3966E-02	7.7741E-12	3.3203E+13	1.6267E+09
La-142	2.3839E-02	1.6653E-12	7.0625E+12	8.8204E+08
Ce-141	1.6662E-01	5.8477E-09	2.4976E+16	6.1650E+09
Ce-143	1.4806E-01	2.2296E-10	9.3893E+14	5.4782E+09
Ce-144	1.4327E-01	4.4918E-08	1.8785E+17	5.3009E+09
Pr-143	6.0521E-02	8.9876E-10	3.7849E+15	2.2393E+09
Nd-147	2.6664E-02	3.2959E-10	1.3502E+15	9.8655E+08
Np-239	1.9076E+00	8.2227E-09	2.0719E+16	7.0581E+10
Pu-238	5.1390E-04	3.0018E-08	7.5955E+16	1.9014E+07
Pu-239	4.8565E-05	7.8133E-07	1.9687E+18	1.7969E+06
Pu-240	8.8947E-05	3.9035E-07	9.7946E+17	3.2910E+06
Pu-241	1.9642E-02	1.9067E-07	4.7645E+17	7.2674E+08
Am-241	1.2903E-05	3.7595E-09	9.3942E+15	4.7741E+05
Cm-242	3.2797E-03	9.8957E-10	2.4625E+15	1.2135E+08
Cm-244	1.9074E-04	2.3576E-09	5.8189E+15	7.0573E+06

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.0884E+22	7.5585E+17	
Elemental I (atoms)	1.7552E+18	1.2189E+14	
Organic I (atoms)	7.1293E+17	4.9509E+13	
Aerosols (kg)	1.5131E-04	1.0507E-08	
Dose Effective (Ci) I-131 (Thyroid)			1.5937E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.9644E+02
Total I (Ci)			7.0290E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4708E+21

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Elemental I (atoms)    6.3865E+16  8.6983E+17
Organic I (atoms)      0.0000E+00  3.5480E+17
Aerosols (kg)          7.8852E-04  1.0936E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4957E+21
Elemental I (atoms)    1.2619E+17  7.1674E+17
Organic I (atoms)      0.0000E+00  2.9673E+17
Aerosols (kg)          1.6005E-04  3.9465E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1881E+20
Elemental I (atoms)    3.0021E+16  1.7052E+17
Organic I (atoms)      0.0000E+00  6.2251E+16
Aerosols (kg)          2.0187E-05  2.4874E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0320E+19
Elemental I (atoms)    1.6504E+15  1.1723E+14
Organic I (atoms)      6.6907E+14  1.4756E+13
Aerosols (kg)          1.4108E-07  1.2843E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3321E+18
Elemental I (atoms)    0.0000E+00  5.4867E+14
Organic I (atoms)      0.0000E+00  1.6285E+14
Aerosols (kg)          0.0000E+00  5.2032E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    9.4335E+18  0.0000E+00
Elemental I (atoms)    6.0220E+14  0.0000E+00
Organic I (atoms)      1.3961E+14  0.0000E+00
Aerosols (kg)          6.0289E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0698E+00  1.3045E+01  2.6269E+00
Accumulated dose (rem)  3.6788E+00  2.8580E+01  4.9636E+00

CR Air Intake Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.7409E+00  5.5092E+01  1.1094E+01
Accumulated dose (rem)  1.6001E+01  1.2753E+02  2.1746E+01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1205E-01  1.0869E+01  7.8715E-01
Accumulated dose (rem)  5.1059E-01  2.7962E+01  1.7524E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	8.2161E+05	2.0942E+00	1.4837E+25	7.6887E+20
Kr-85m	3.5482E+06	4.3115E-04	3.0546E+21	6.0115E+21
Kr-87	3.1324E+05	1.1058E-05	7.6546E+19	3.5015E+21
Kr-88	4.8340E+06	3.8551E-04	2.6382E+21	1.2053E+22
Rb-86	1.3081E+02	1.6077E-06	1.1258E+19	4.6972E+17
Sr-89	6.4355E+03	2.2152E-04	1.4989E+21	1.8891E+19
Sr-90	1.0169E+03	7.4547E-03	4.9882E+22	2.9753E+18
Sr-91	4.5749E+03	1.2621E-06	8.3519E+18	2.0439E+19
Sr-92	1.1218E+03	8.9248E-08	5.8420E+17	1.5400E+19
Y-90	7.8441E+01	1.4418E-07	9.6472E+17	6.1786E+16
Y-91	9.1007E+01	3.7109E-06	2.4558E+19	2.4795E+17
Y-92	1.7711E+03	1.8406E-07	1.2048E+18	1.6899E+18
Y-93	3.8388E+01	1.1506E-08	7.4506E+16	1.6716E+17
Zr-95	1.1862E+02	5.5216E-06	3.5002E+19	3.4796E+17
Zr-97	8.3368E+01	4.3610E-08	2.7075E+17	3.0878E+17
Nb-95	1.1904E+02	3.0443E-06	1.9298E+19	3.4831E+17
Mo-99	1.4347E+03	2.9914E-06	1.8197E+19	4.4566E+18
Tc-99m	1.3431E+03	2.5543E-07	1.5538E+18	4.0178E+18
Ru-103	1.3356E+03	4.1382E-05	2.4195E+20	3.9240E+18
Ru-105	2.7032E+02	4.0214E-08	2.3064E+17	1.9938E+18
Ru-106	5.8559E+02	1.7503E-04	9.9441E+20	1.7141E+18
Rh-105	8.3138E+02	9.8498E-07	5.6492E+18	2.5603E+18
Sb-127	1.3956E+03	5.2260E-06	2.4781E+19	4.2614E+18
Sb-129	1.4945E+03	2.6576E-07	1.2406E+18	1.1320E+19
Te-127	1.4520E+03	5.5018E-07	2.6089E+18	4.2870E+18
Te-127m	2.5217E+02	2.6734E-05	1.2677E+20	7.3779E+17
Te-129	2.3010E+03	1.0987E-07	5.1293E+17	1.2557E+19
Te-129m	1.0350E+03	3.4358E-05	1.6039E+20	3.0350E+18
Te-131m	2.8004E+03	3.5119E-06	1.6145E+19	9.3509E+18
Te-132	2.2142E+04	7.2932E-05	3.3273E+20	6.8136E+19
I-131	1.1249E+05	9.0737E-04	4.1712E+21	3.1819E+20
I-132	4.4138E+04	4.2760E-06	1.9508E+19	3.8731E+20
I-133	1.8284E+05	1.6140E-04	7.3082E+20	6.1595E+20
I-134	4.7372E+02	1.7758E-08	7.9806E+16	2.5538E+20
I-135	9.8191E+04	2.7960E-05	1.2472E+20	5.0980E+20
Xe-133	9.1854E+07	4.9072E-01	2.2219E+24	8.7624E+22
Xe-135	2.1589E+07	8.4539E-03	3.7711E+22	2.6518E+22
Cs-134	1.7453E+04	1.3490E-02	6.0624E+22	6.2099E+19
Cs-136	4.6813E+03	6.3872E-05	2.8283E+20	1.6876E+19
Cs-137	1.3846E+04	1.5918E-01	6.9972E+23	4.9254E+19
Ba-139	2.1603E+02	1.3207E-08	5.7219E+16	1.4717E+19
Ba-140	1.1935E+04	1.6302E-04	7.0125E+20	3.5372E+19
La-140	1.3802E+03	2.4831E-06	1.0681E+19	9.5708E+17
La-141	2.7020E+01	4.7779E-09	2.0406E+16	2.2576E+17
La-142	2.9685E+00	2.0737E-10	8.7944E+14	1.4240E+17
Ce-141	2.7766E+02	9.7449E-06	4.1620E+19	8.1569E+17
Ce-143	2.2014E+02	3.3150E-07	1.3960E+18	7.2623E+17
Ce-144	2.3956E+02	7.5110E-05	3.1411E+20	7.0133E+17
Pr-143	1.0271E+02	1.5253E-06	6.4233E+18	2.9598E+17
Nd-147	4.3957E+01	5.4336E-07	2.2260E+18	1.3055E+17
Np-239	2.9792E+03	1.2842E-05	3.2357E+19	9.3476E+18
Pu-238	8.5982E-01	5.0224E-05	1.2708E+20	2.5157E+15
Pu-239	8.1310E-02	1.3081E-03	3.2962E+21	2.3773E+14
Pu-240	1.4882E-01	6.5308E-04	1.6387E+21	4.3542E+14
Pu-241	3.2861E+01	3.1900E-04	7.9712E+20	9.6151E+16
Am-241	2.1620E-02	6.2993E-06	1.5741E+19	6.3161E+13
Cm-242	5.4818E+00	1.6540E-06	4.1159E+18	1.6055E+16
Cm-244	3.1911E-01	3.9444E-06	9.7352E+18	9.3372E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	1.7102E+25	0.0000E+00

```
Elemental I (atoms)    5.4477E+20  5.4908E+22
Organic I (atoms)      9.4536E+20  0.0000E+00
Aerosols (kg)          1.8418E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.4285E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.3615E-05
Total I (Ci)                                   4.3813E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9092E+22
Elemental I (atoms)    0.0000E+00  2.1210E+18
Organic I (atoms)      0.0000E+00  1.7289E+18
Aerosols (kg)          0.0000E+00  1.6250E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9092E+22
Elemental I (atoms)    0.0000E+00  2.1210E+18
Organic I (atoms)      0.0000E+00  1.7289E+18
Aerosols (kg)          0.0000E+00  1.6250E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4573E+22
Elemental I (atoms)    0.0000E+00  1.0603E+18
Organic I (atoms)      0.0000E+00  8.6595E+17
Aerosols (kg)          0.0000E+00  8.1179E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5954E+26
Elemental I (atoms)    0.0000E+00  9.2728E+21
Organic I (atoms)      0.0000E+00  9.3540E+21
Aerosols (kg)          0.0000E+00  6.4498E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4811E+26
Elemental I (atoms)    0.0000E+00  8.8548E+21
Organic I (atoms)      0.0000E+00  8.6673E+21
Aerosols (kg)          0.0000E+00  6.3416E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  1.8671E+03  4.7588E-03  3.3716E+22  6.9081E+13
Kr-85m                 1.2906E+04  1.5682E-06  1.1110E+19  4.7750E+14
Kr-87                  5.4462E+03  1.9227E-07  1.3309E+18  2.0151E+14
Kr-88                  2.3997E+04  1.9137E-06  1.3096E+19  8.8787E+14
Rb-86                  1.6987E-01  2.0877E-09  1.4619E+16  6.2854E+09
Sr-89                  6.4717E+00  2.2276E-07  1.5073E+18  2.3945E+11
Sr-90                  1.0201E+00  7.4785E-06  5.0041E+19  3.7745E+10
Sr-91                  6.3114E+00  1.7411E-09  1.1522E+16  2.3352E+11
Sr-92                  3.7185E+00  2.9584E-10  1.9365E+15  1.3759E+11
Y-90                   3.7606E-02  6.9121E-11  4.6251E+14  1.3914E+09
```

Y-91	8.7060E-02	3.5500E-09	2.3493E+16	3.2212E+09
Y-92	1.4784E+00	1.5364E-10	1.0057E+15	5.4702E+10
Y-93	5.1937E-02	1.5567E-11	1.0080E+14	1.9217E+09
Zr-95	1.1923E-01	5.5498E-09	3.5181E+16	4.4114E+09
Zr-97	9.9796E-02	5.2204E-11	3.2410E+14	3.6925E+09
Nb-95	1.1942E-01	3.0541E-09	1.9360E+16	4.4187E+09
Mo-99	1.5050E+00	3.1379E-09	1.9088E+16	5.5685E+10
Tc-99m	1.3752E+00	2.6154E-10	1.5909E+15	5.0884E+10
Ru-103	1.3440E+00	4.1643E-08	2.4348E+17	4.9727E+10
Ru-105	5.4847E-01	8.1594E-11	4.6797E+14	2.0294E+10
Ru-106	5.8765E-01	1.7565E-07	9.9791E+17	2.1743E+10
Rh-105	8.7035E-01	1.0312E-09	5.9141E+15	3.2203E+10
Sb-127	1.4454E+00	5.4122E-09	2.5664E+16	5.3478E+10
Sb-129	3.0958E+00	5.5052E-10	2.5700E+15	1.1455E+11
Te-127	1.4697E+00	5.5691E-10	2.6408E+15	5.4380E+10
Te-127m	2.5297E-01	2.6818E-08	1.2717E+17	9.3598E+09
Te-129	3.7784E+00	1.8042E-10	8.4225E+14	1.3980E+11
Te-129m	1.0402E+00	3.4530E-08	1.6120E+17	3.8489E+10
Te-131m	3.1010E+00	3.8888E-09	1.7877E+16	1.1474E+11
Te-132	2.3064E+01	7.5971E-08	3.4660E+17	8.5338E+11
I-131	2.1789E+02	1.7575E-06	8.0795E+18	8.0619E+12
I-132	1.7796E+02	1.7240E-08	7.8654E+16	6.5844E+12
I-133	3.9988E+02	3.5300E-07	1.5984E+18	1.4796E+13
I-134	6.1391E+01	2.3013E-09	1.0342E+16	2.2715E+12
I-135	2.9188E+02	8.3114E-08	3.7076E+17	1.0800E+13
Xe-133	2.1187E+05	1.1319E-03	5.1250E+21	7.8390E+15
Xe-135	6.0411E+04	2.3656E-05	1.0553E+20	2.2352E+15
Cs-134	2.2509E+01	1.7397E-05	7.8184E+19	8.3282E+11
Cs-136	6.0974E+00	8.3194E-08	3.6839E+17	2.2560E+11
Cs-137	1.7854E+01	2.0526E-04	9.0225E+20	6.6058E+11
Ba-139	2.6909E+00	1.6451E-10	7.1273E+14	9.9562E+10
Ba-140	1.2088E+01	1.6512E-07	7.1026E+17	4.4726E+11
La-140	6.3429E-01	1.1412E-09	4.9087E+15	2.3469E+10
La-141	6.0433E-02	1.0686E-11	4.5640E+13	2.2360E+09
La-142	2.7497E-02	1.9209E-12	8.1462E+12	1.0174E+09
Ce-141	2.7939E-01	9.8055E-09	4.1880E+16	1.0338E+10
Ce-143	2.4157E-01	3.6376E-10	1.5319E+15	8.9380E+09
Ce-144	2.4043E-01	7.5381E-08	3.1525E+17	8.8958E+09
Pr-143	1.0196E-01	1.5141E-09	6.3762E+15	3.7723E+09
Nd-147	4.4591E-02	5.5119E-10	2.2581E+15	1.6499E+09
Np-239	3.1487E+00	1.3573E-08	3.4199E+16	1.1650E+11
Pu-238	8.6254E-04	5.0383E-08	1.2748E+17	3.1914E+07
Pu-239	8.1526E-05	1.3116E-06	3.3049E+18	3.0165E+06
Pu-240	1.4929E-04	6.5516E-07	1.6439E+18	5.5237E+06
Pu-241	3.2967E-02	3.2002E-07	7.9968E+17	1.2198E+09
Am-241	2.1665E-05	6.3122E-09	1.5773E+16	8.0159E+05
Cm-242	5.5034E-03	1.6605E-09	4.1321E+15	2.0362E+08
Cm-244	3.2014E-04	3.9571E-09	9.7664E+15	1.1845E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.8972E+22	1.3532E+18
Elemental I (atoms)	3.1679E+18	1.1000E+14
Organic I (atoms)	2.3216E+18	8.0610E+13
Aerosols (kg)	2.3446E-04	8.1410E-09

Dose Effective (Ci) I-131 (Thyroid)	2.9402E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.5652E+02
Total I (Ci)	1.1490E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7537E+22
Elemental I (atoms)	1.0802E+17	1.4712E+18

```
Organic I (atoms)      0.0000E+00  1.0447E+18
Aerosols (kg)          1.1912E-03  1.6521E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6819E+22
Elemental I (atoms)    2.2663E+17  1.2873E+18
Organic I (atoms)      0.0000E+00  1.0021E+18
Aerosols (kg)          2.5811E-04  6.3644E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6201E+21
Elemental I (atoms)    7.2743E+16  4.1318E+17
Organic I (atoms)      0.0000E+00  2.7760E+17
Aerosols (kg)          4.5607E-05  5.6196E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5615E+19
Elemental I (atoms)    2.9115E+15  1.2996E+14
Organic I (atoms)      2.1049E+15  2.9259E+13
Aerosols (kg)          2.1521E-07  1.3592E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.8829E+18
Elemental I (atoms)    0.0000E+00  8.2819E+14
Organic I (atoms)      0.0000E+00  4.8112E+14
Aerosols (kg)          0.0000E+00  6.8464E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    3.8202E+19  0.0000E+00
Elemental I (atoms)    9.1048E+14  0.0000E+00
Organic I (atoms)      4.5136E+14  0.0000E+00
Aerosols (kg)          8.0058E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.3755E+00  3.7800E+01  4.8031E+00
Accumulated dose (rem)  7.0543E+00  6.6380E+01  9.7667E+00

CR Air Intake Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0382E+00  6.7619E+01  8.5920E+00
Accumulated dose (rem)  2.2040E+01  1.9514E+02  3.0338E+01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.5155E-01  1.3628E+01  7.7136E-01
Accumulated dose (rem)  7.6214E-01  4.1590E+01  2.5237E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	2.5150E+21
Kr-85m	2.9689E+05	3.6076E-05	2.5559E+20	8.8043E+21
Kr-87	5.0820E+01	1.7941E-09	1.2419E+16	3.5780E+21
Kr-88	9.6840E+04	7.7230E-06	5.2851E+19	1.4634E+22
Rb-86	1.2694E+02	1.5601E-06	1.0924E+19	7.4433E+17
Sr-89	6.3432E+03	2.1834E-04	1.4774E+21	3.2506E+19
Sr-90	1.0115E+03	7.4150E-03	4.9616E+22	5.1364E+18
Sr-91	1.4161E+03	3.9064E-07	2.5852E+18	2.6179E+19
Sr-92	1.8634E+01	1.4825E-09	9.7042E+15	1.5974E+19
Y-90	2.2719E+02	4.1758E-07	2.7941E+18	3.8361E+17
Y-91	9.8680E+01	4.0238E-06	2.6629E+19	4.5153E+17
Y-92	1.8128E+02	1.8839E-08	1.2332E+17	3.3422E+18
Y-93	1.2735E+01	3.8172E-09	2.4718E+16	2.1670E+17
Zr-95	1.1714E+02	5.4529E-06	3.4567E+19	5.9916E+17
Zr-97	4.3022E+01	2.2505E-08	1.3972E+17	4.3874E+17
Nb-95	1.1839E+02	3.0275E-06	1.9192E+19	6.0121E+17
Mo-99	1.2064E+03	2.5153E-06	1.5301E+19	7.2636E+18
Tc-99m	1.2090E+03	2.2992E-07	1.3986E+18	6.6353E+18
Ru-103	1.3130E+03	4.0682E-05	2.3785E+20	6.7459E+18
Ru-105	2.2120E+01	3.2906E-09	1.8873E+16	2.2051E+18
Ru-106	5.8176E+02	1.7389E-04	9.8791E+20	2.9579E+18
Rh-105	6.2951E+02	7.4582E-07	4.2775E+18	4.1168E+18
Sb-127	1.2312E+03	4.6104E-06	2.1862E+19	7.0566E+18
Sb-129	1.1409E+02	2.0289E-08	9.4715E+16	1.2463E+19
Te-127	1.3762E+03	5.2147E-07	2.4727E+18	7.2267E+18
Te-127m	2.5077E+02	2.6586E-05	1.2606E+20	1.2736E+18
Te-129	1.0397E+03	4.9646E-08	2.3176E+17	1.5139E+19
Te-129m	1.0171E+03	3.3762E-05	1.5761E+20	5.2220E+18
Te-131m	1.9247E+03	2.4138E-06	1.1096E+19	1.4327E+19
Te-132	1.9112E+04	6.2954E-05	2.8721E+20	1.1201E+20
I-131	1.0575E+05	8.5298E-04	3.9212E+21	5.5064E+20
I-132	2.2872E+04	2.2158E-06	1.0109E+19	4.4052E+20
I-133	1.0671E+05	9.4199E-05	4.2653E+20	9.1722E+20
I-134	1.5105E-03	5.6624E-14	2.5448E+11	2.5546E+20
I-135	1.8243E+04	5.1947E-06	2.3173E+19	6.1102E+20
Xe-133	8.3674E+07	4.4702E-01	2.0241E+24	2.7451E+23
Xe-135	6.3642E+06	2.4921E-03	1.1117E+22	5.3080E+22
Cs-134	1.7350E+04	1.3410E-02	6.0266E+22	9.9181E+19
Cs-136	4.4951E+03	6.1332E-05	2.7158E+20	2.6652E+19
Cs-137	1.3772E+04	1.5833E-01	6.9599E+23	7.8680E+19
Ba-139	6.8831E-02	4.2080E-12	1.8231E+13	1.4774E+19
Ba-140	1.1449E+04	1.5638E-04	6.7269E+20	6.0283E+19
La-140	3.8647E+03	6.9531E-06	2.9909E+19	6.5320E+18
La-141	1.5989E+00	2.8272E-10	1.2075E+15	2.4492E+17
La-142	2.2184E-03	1.5497E-13	6.5721E+11	1.4327E+17
Ce-141	2.7242E+02	9.5609E-06	4.0835E+19	1.4018E+18
Ce-143	1.5647E+02	2.3562E-07	9.9228E+17	1.1237E+18
Ce-144	2.3791E+02	7.4591E-05	3.1194E+20	1.2101E+18
Pr-143	1.0497E+02	1.5589E-06	6.5648E+18	5.1736E+17
Nd-147	4.1922E+01	5.1821E-07	2.1229E+18	2.2203E+17
Np-239	2.4354E+03	1.0498E-05	2.6452E+19	1.5097E+19
Pu-238	8.5534E-01	4.9963E-05	1.2642E+20	4.3431E+15
Pu-239	8.1021E-02	1.3035E-03	3.2845E+21	4.1069E+14
Pu-240	1.4803E-01	6.4963E-04	1.6301E+21	7.5170E+14
Pu-241	3.2685E+01	3.1729E-04	7.9284E+20	1.6599E+17
Am-241	2.1602E-02	6.2938E-06	1.5727E+19	1.0921E+14
Cm-242	5.4373E+00	1.6406E-06	4.0825E+18	2.7689E+16
Cm-244	3.1740E-01	3.9233E-06	9.6830E+18	1.6119E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.6793E+25	0.0000E+00
Elemental I (atoms)	4.7294E+20	5.4908E+22

```
Organic I (atoms)      8.2071E+20  0.0000E+00
Aerosols (kg)          1.8307E-01  5.2582E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6159E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0784E-05
Total I (Ci)                                   2.5357E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8859E+22
Elemental I (atoms)    0.0000E+00  3.9088E+18
Organic I (atoms)      0.0000E+00  4.8313E+18
Aerosols (kg)          0.0000E+00  2.2726E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8859E+22
Elemental I (atoms)    0.0000E+00  3.9088E+18
Organic I (atoms)      0.0000E+00  4.8313E+18
Aerosols (kg)          0.0000E+00  2.2726E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4543E+22
Elemental I (atoms)    0.0000E+00  1.9568E+18
Organic I (atoms)      0.0000E+00  2.4216E+18
Aerosols (kg)          0.0000E+00  1.1365E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1917E+26
Elemental I (atoms)    0.0000E+00  2.0030E+22
Organic I (atoms)      0.0000E+00  2.8022E+22
Aerosols (kg)          0.0000E+00  1.0346E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0780E+26
Elemental I (atoms)    0.0000E+00  1.9614E+22
Organic I (atoms)      0.0000E+00  2.7339E+22
Aerosols (kg)          0.0000E+00  1.0239E+01
```

Environment Integral Nuclide Release:

```
Time (h) =  24.0000       Ci           kg         Atoms         Bq
Co-58                  8.1701E-03  2.5694E-10  2.6678E+15  3.0229E+08
Co-60                  9.8119E-03  8.6802E-09  8.7122E+16  3.6304E+08
Kr-85                  8.8298E+03  2.2506E-02  1.5945E+23  3.2670E+14
Kr-85m                 2.3352E+04  2.8376E-06  2.0104E+19  8.6403E+14
Kr-87                  5.7189E+03  2.0190E-07  1.3975E+18  2.1160E+14
Kr-88                  3.3458E+04  2.6683E-06  1.8260E+19  1.2379E+15
Rb-86                  2.6532E-01  3.2608E-09  2.2834E+16  9.8170E+09
Sr-89                  1.1067E+01  3.8094E-07  2.5776E+18  4.0949E+11
Sr-90                  1.7494E+00  1.2825E-05  8.5816E+19  6.4729E+10
Sr-91                  8.3128E+00  2.2932E-09  1.5176E+16  3.0757E+11
Sr-92                  3.9393E+00  3.1340E-10  2.0515E+15  1.4575E+11
Y-90                   1.4685E-01  2.6991E-10  1.8060E+15  5.4334E+09
Y-91                   1.5576E-01  6.3514E-09  4.2032E+16  5.7631E+09
```

Y-92	2.0856E+00	2.1674E-10	1.4187E+15	7.7166E+10
Y-93	6.9173E-02	2.0733E-11	1.3426E+14	2.5594E+09
Zr-95	2.0401E-01	9.4964E-09	6.0199E+16	7.5484E+09
Zr-97	1.4441E-01	7.5539E-11	4.6897E+14	5.3430E+09
Nb-95	2.0479E-01	5.2373E-09	3.3200E+16	7.5774E+09
Mo-99	2.4560E+00	5.1208E-09	3.1150E+16	9.0873E+10
Tc-99m	2.2952E+00	4.3650E-10	2.6552E+15	8.4924E+10
Ru-103	2.2965E+00	7.1157E-08	4.1604E+17	8.4971E+10
Ru-105	6.2558E-01	9.3065E-11	5.3376E+14	2.3147E+10
Ru-106	1.0074E+00	3.0111E-07	1.7107E+18	3.7273E+10
Rh-105	1.3992E+00	1.6577E-09	9.5077E+15	5.1771E+10
Sb-127	2.3913E+00	8.9543E-09	4.2460E+16	8.8477E+10
Sb-129	3.5141E+00	6.2491E-10	2.9173E+15	1.3002E+11
Te-127	2.4884E+00	9.4290E-10	4.4711E+15	9.2071E+10
Te-127m	4.3381E-01	4.5991E-08	2.1808E+17	1.6051E+10
Te-129	4.8367E+00	2.3095E-10	1.0782E+15	1.7896E+11
Te-129m	1.7785E+00	5.9037E-08	2.7560E+17	6.5804E+10
Te-131m	4.7957E+00	6.0141E-09	2.7647E+16	1.7744E+11
Te-132	3.7920E+01	1.2490E-07	5.6984E+17	1.4030E+12
I-131	5.3662E+02	4.3285E-06	1.9898E+19	1.9855E+13
I-132	2.4513E+02	2.3748E-08	1.0834E+17	9.0696E+12
I-133	8.1028E+02	7.1528E-07	3.2387E+18	2.9980E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.2849E+02	1.2201E-07	5.4428E+17	1.5854E+13
Xe-133	9.5494E+05	5.1017E-03	2.3100E+22	3.5333E+16
Xe-135	1.6256E+05	6.3656E-05	2.8396E+20	6.0147E+15
Cs-134	3.5388E+01	2.7352E-05	1.2292E+20	1.3094E+12
Cs-136	9.4963E+00	1.2957E-07	5.7374E+17	3.5136E+11
Cs-137	2.8074E+01	3.2276E-04	1.4187E+21	1.0387E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	2.0502E+01	2.8004E-07	1.2046E+18	7.5856E+11
La-140	2.5296E+00	4.5511E-09	1.9577E+16	9.3597E+10
La-141	6.7505E-02	1.1936E-11	5.0981E+13	2.4977E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	4.7725E-01	1.6750E-08	7.1538E+16	1.7658E+10
Ce-143	3.7679E-01	5.6738E-10	2.3894E+15	1.3941E+10
Ce-144	4.1211E-01	1.2921E-07	5.4036E+17	1.5248E+10
Pr-143	1.7672E-01	2.6243E-09	1.1052E+16	6.5386E+09
Nd-147	7.5494E-02	9.3319E-10	3.8230E+15	2.7933E+09
Np-239	5.0981E+00	2.1975E-08	5.5371E+16	1.8863E+11
Pu-238	1.4792E-03	8.6406E-08	2.1863E+17	5.4732E+07
Pu-239	1.3989E-04	2.2507E-06	5.6710E+18	5.1760E+06
Pu-240	2.5602E-04	1.1236E-06	2.8193E+18	9.4728E+06
Pu-241	5.6534E-02	5.4881E-07	1.3714E+18	2.0918E+09
Am-241	3.7204E-05	1.0840E-08	2.7087E+16	1.3766E+06
Cm-242	9.4297E-03	2.8452E-09	7.0801E+15	3.4890E+08
Cm-244	5.4900E-04	6.7860E-09	1.6748E+16	2.0313E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.8287E+23	2.1166E+18
Elemental I (atoms)	6.9607E+18	8.0563E+13
Organic I (atoms)	9.7528E+18	1.1288E+14
Aerosols (kg)	3.7014E-04	4.2840E-09

Dose Effective (Ci) I-131 (Thyroid)	6.8542E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	7.9874E+02
Total I (Ci)	2.0820E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6016E+22
Elemental I (atoms)	2.7690E+17	3.1561E+18
Organic I (atoms)	0.0000E+00	4.0816E+18

```
Aerosols (kg)          1.8757E-03  2.6014E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5885E+22
Elemental I (atoms)    5.6897E+17  2.6889E+18
Organic I (atoms)      0.0000E+00  4.0686E+18
Aerosols (kg)          3.9830E-04  9.8209E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1060E+22
Elemental I (atoms)    2.5071E+17  1.1418E+18
Organic I (atoms)      0.0000E+00  1.6511E+18
Aerosols (kg)          9.5766E-05  1.1800E-05

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0535E+19
Elemental I (atoms)    4.3521E+15  1.4452E+14
Organic I (atoms)      4.9283E+15  5.7778E+13
Aerosols (kg)          2.6645E-07  1.4109E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9935E+19
Elemental I (atoms)    0.0000E+00  1.1475E+15
Organic I (atoms)      0.0000E+00  1.1070E+15
Aerosols (kg)          0.0000E+00  7.9821E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.0777E+20  0.0000E+00
Elemental I (atoms)    1.2707E+15  0.0000E+00
Organic I (atoms)      1.1330E+15  0.0000E+00
Aerosols (kg)          9.3539E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0044E+00  2.2660E+01  1.8637E+00
Accumulated dose (rem)  8.0587E+00  8.9040E+01  1.1630E+01

CR Air Intake Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.1231E-01  1.6070E+01  1.3217E+00
Accumulated dose (rem)  2.2752E+01  2.1121E+02  3.1659E+01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9617E-02  3.2350E+00  1.5211E-01
Accumulated dose (rem)  7.9176E-01  4.4825E+01  2.6759E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.1384E+05	2.0743E+00	1.4696E+25	5.1218E+21
Kr-85m	7.2147E+03	8.7668E-07	6.2112E+18	9.0534E+21
Kr-87	1.0544E-04	3.7225E-15	2.5767E+10	3.5780E+21
Kr-88	2.7569E+02	2.1986E-08	1.5046E+17	1.4687E+22
Rb-86	1.2183E+02	1.4973E-06	1.0485E+19	1.1419E+18
Sr-89	6.2321E+03	2.1451E-04	1.4515E+21	5.2604E+19
Sr-90	1.0074E+03	7.3853E-03	4.9417E+22	8.3632E+18
Sr-91	2.4483E+02	6.7541E-08	4.4697E+17	2.8312E+19
Sr-92	4.0054E-02	3.1866E-12	2.0859E+13	1.5983E+19
Y-90	4.0634E+02	7.4687E-07	4.9975E+18	1.3915E+18
Y-91	1.0042E+02	4.0948E-06	2.7098E+19	7.7101E+17
Y-92	2.1087E+00	2.1915E-10	1.4345E+15	3.4736E+18
Y-93	2.4433E+00	7.3233E-10	4.7421E+15	2.3663E+17
Zr-95	1.1543E+02	5.3729E-06	3.4059E+19	9.7087E+17
Zr-97	1.6013E+01	8.3766E-09	5.2005E+16	5.2610E+17
Nb-95	1.1786E+02	3.0141E-06	1.9107E+19	9.7865E+17
Mo-99	9.3391E+02	1.9472E-06	1.1845E+19	1.0666E+19
Tc-99m	9.5574E+02	1.8176E-07	1.1056E+18	9.9173E+18
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.1984E-01	7.7334E-11	4.4354E+14	2.2235E+18
Ru-106	5.7838E+02	1.7288E-04	9.8217E+20	4.8121E+18
Rh-105	3.9363E+02	4.6636E-07	2.6748E+18	5.7244E+18
Sb-127	1.0243E+03	3.8356E-06	1.8188E+19	1.0651E+19
Sb-129	2.4163E+00	4.2969E-10	2.0059E+15	1.2556E+19
Te-127	1.2160E+03	4.6075E-07	2.1848E+18	1.1237E+19
Te-127m	2.4948E+02	2.6449E-05	1.2542E+20	2.0732E+18
Te-129	8.6166E+02	4.1144E-08	1.9208E+17	1.7337E+19
Te-129m	9.9254E+02	3.2947E-05	1.5381E+20	8.4339E+18
Te-131m	1.1011E+03	1.3809E-06	6.3479E+18	1.9042E+19
Te-132	1.5389E+04	5.0690E-05	2.3126E+20	1.6694E+20
I-131	9.6725E+04	7.8020E-04	3.5866E+21	8.7405E+20
I-132	1.8368E+04	1.7795E-06	8.1185E+18	4.9741E+20
I-133	4.7769E+04	4.2169E-05	1.9094E+20	1.1516E+21
I-135	1.4669E+03	4.1769E-07	1.8632E+18	6.3230E+20
Xe-133	7.3035E+07	3.9018E-01	1.7667E+24	5.2459E+23
Xe-135	1.0202E+06	3.9950E-04	1.7821E+21	6.2412E+22
Cs-134	1.7266E+04	1.3345E-02	5.9973E+22	1.5451E+20
Cs-136	4.2466E+03	5.7942E-05	2.5657E+20	4.0620E+19
Cs-137	1.3717E+04	1.5770E-01	6.9320E+23	1.2262E+20
Ba-139	3.9303E-07	2.4029E-17	1.0410E+08	1.4774E+19
Ba-140	1.0800E+04	1.4752E-04	6.3456E+20	9.5832E+19
La-140	6.3280E+03	1.1385E-05	4.8972E+19	2.2861E+19
La-141	2.3108E-02	4.0860E-12	1.7451E+13	2.4611E+17
La-142	4.5500E-08	3.1785E-18	1.3480E+07	1.4327E+17
Ce-141	2.6563E+02	9.3225E-06	3.9817E+19	2.2618E+18
Ce-143	9.4145E+01	1.4177E-07	5.9702E+17	1.5158E+18
Ce-144	2.3639E+02	7.4116E-05	3.0996E+20	1.9681E+18
Pr-143	1.0544E+02	1.5658E-06	6.5942E+18	8.5410E+17
Nd-147	3.9203E+01	4.8459E-07	1.9852E+18	3.5165E+17
Np-239	1.8073E+03	7.7904E-06	1.9630E+19	2.1829E+19
Pu-238	8.5207E-01	4.9771E-05	1.2594E+20	7.0721E+15
Pu-239	8.0868E-02	1.3010E-03	3.2782E+21	6.6944E+14
Pu-240	1.4745E-01	6.4707E-04	1.6236E+21	1.2239E+15
Pu-241	3.2551E+01	3.1599E-04	7.8961E+20	2.7025E+17
Am-241	2.1659E-02	6.3106E-06	1.5769E+19	1.7834E+14
Cm-242	5.3929E+00	1.6272E-06	4.0492E+18	4.4999E+16
Cm-244	3.1612E-01	3.9074E-06	9.6439E+18	2.6245E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6465E+25	0.0000E+00
Elemental I (atoms)	4.0887E+20	5.4908E+22
Organic I (atoms)	7.0953E+20	0.0000E+00
Aerosols (kg)	1.8221E-01	5.2582E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         3.8968E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.0994E-05
Total I (Ci)                                   1.6433E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6473E+22
Elemental I (atoms)	0.0000E+00	2.5368E+18
Organic I (atoms)	0.0000E+00	3.4282E+18
Aerosols (kg)	0.0000E+00	1.3774E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0485E+27
Elemental I (atoms)	0.0000E+00	3.4031E+22
Organic I (atoms)	0.0000E+00	5.2318E+22
Aerosols (kg)	0.0000E+00	1.6160E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0372E+27
Elemental I (atoms)	0.0000E+00	3.3616E+22
Organic I (atoms)	0.0000E+00	5.1636E+22
Aerosols (kg)	0.0000E+00	1.6053E+01

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	1.0325E-02	3.2471E-10	3.3715E+15	3.8203E+08
Co-60	1.2429E-02	1.0995E-08	1.1036E+17	4.5986E+08
Kr-85	1.4229E+04	3.6268E-02	2.5695E+23	5.2648E+14
Kr-85m	2.3828E+04	2.8955E-06	2.0514E+19	8.8165E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6759E-06	1.8312E+19	1.2415E+15
Rb-86	3.2282E-01	3.9674E-09	2.7782E+16	1.1944E+10
Sr-89	1.3973E+01	4.8098E-07	3.2545E+18	5.1702E+11
Sr-90	2.2161E+00	1.6247E-05	1.0871E+20	8.1997E+10
Sr-91	8.6104E+00	2.3753E-09	1.5719E+16	3.1858E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	2.9687E-01	5.4566E-10	3.6512E+15	1.0984E+10
Y-91	2.0202E-01	8.2378E-09	5.4515E+16	7.4748E+09
Y-92	2.1031E+00	2.1856E-10	1.4307E+15	7.7813E+10
Y-93	7.1959E-02	2.1568E-11	1.3966E+14	2.6625E+09

Zr-95	2.5776E-01	1.1998E-08	7.6059E+16	9.5372E+09
Zr-97	1.5679E-01	8.2016E-11	5.0919E+14	5.8011E+09
Nb-95	2.5941E-01	6.6340E-09	4.2053E+16	9.5981E+09
Mo-99	2.9456E+00	6.1416E-09	3.7359E+16	1.0899E+11
Tc-99m	2.7930E+00	5.3117E-10	3.2311E+15	1.0334E+11
Ru-103	2.8968E+00	8.9758E-08	5.2479E+17	1.0718E+11
Ru-105	6.2805E-01	9.3431E-11	5.3586E+14	2.3238E+10
Ru-106	1.2756E+00	3.8127E-07	2.1661E+18	4.7196E+10
Rh-105	1.6296E+00	1.9306E-09	1.1073E+16	6.0293E+10
Sb-127	2.9093E+00	1.0894E-08	5.1658E+16	1.0764E+11
Sb-129	3.5265E+00	6.2711E-10	2.9275E+15	1.3048E+11
Te-127	3.0872E+00	1.1698E-09	5.5470E+15	1.1423E+11
Te-127m	5.4946E-01	5.8252E-08	2.7622E+17	2.0330E+10
Te-129	5.2556E+00	2.5096E-10	1.1715E+15	1.9446E+11
Te-129m	2.2429E+00	7.4451E-08	3.4756E+17	8.2986E+10
Te-131m	5.4698E+00	6.8595E-09	3.1533E+16	2.0238E+11
Te-132	4.5830E+01	1.5096E-07	6.8871E+17	1.6957E+12
I-131	7.4594E+02	6.0169E-06	2.7660E+19	2.7600E+13
I-132	2.7562E+02	2.6702E-08	1.2182E+17	1.0198E+13
I-133	9.5976E+02	8.4724E-07	3.8362E+18	3.5511E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4158E+02	1.2574E-07	5.6090E+17	1.6338E+13
Xe-133	1.4715E+06	7.8611E-03	3.5594E+22	5.4444E+16
Xe-135	1.8115E+05	7.0934E-05	3.1642E+20	6.7024E+15
Cs-134	4.3395E+01	3.3540E-05	1.5073E+20	1.6056E+12
Cs-136	1.1516E+01	1.5712E-07	6.9575E+17	4.2608E+11
Cs-137	3.4433E+01	3.9586E-04	1.7401E+21	1.2740E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	2.5638E+01	3.5020E-07	1.5064E+18	9.4860E+11
La-140	4.9593E+00	8.9223E-09	3.8380E+16	1.8349E+11
La-141	6.7662E-02	1.1964E-11	5.1100E+13	2.5035E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	6.0158E-01	2.1113E-08	9.0173E+16	2.2258E+10
Ce-143	4.3292E-01	6.5191E-10	2.7454E+15	1.6018E+10
Ce-144	5.2175E-01	1.6358E-07	6.8412E+17	1.9305E+10
Pr-143	2.2549E-01	3.3486E-09	1.4102E+16	8.3432E+09
Nd-147	9.4216E-02	1.1646E-09	4.7711E+15	3.4860E+09
Np-239	6.0658E+00	2.6147E-08	6.5882E+16	2.2443E+11
Pu-238	1.8740E-03	1.0946E-07	2.7697E+17	6.9336E+07
Pu-239	1.7732E-04	2.8528E-06	7.1883E+18	6.5609E+06
Pu-240	3.2433E-04	1.4233E-06	3.5714E+18	1.2000E+07
Pu-241	7.1615E-02	6.9520E-07	1.7372E+18	2.6498E+09
Am-241	4.7206E-05	1.3754E-08	3.4369E+16	1.7466E+06
Cm-242	1.1933E-02	3.6005E-09	8.9598E+15	4.4153E+08
Cm-244	6.9546E-04	8.5962E-09	2.1216E+16	2.5732E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.9290E+23	1.6950E+18
Elemental I (atoms)	9.0104E+18	5.2144E+13
Organic I (atoms)	1.4773E+19	8.5490E+13
Aerosols (kg)	4.5463E-04	2.6310E-09
Dose Effective (Ci) I-131 (Thyroid)		9.2018E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.0502E+03
Total I (Ci)		2.4844E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2012E+23
Elemental I (atoms)	4.6004E+17	4.1402E+18
Organic I (atoms)	0.0000E+00	6.1058E+18
Aerosols (kg)	2.3022E-03	3.1930E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2000E+23
Elemental I (atoms)	9.0976E+17	3.4045E+18
Organic I (atoms)	0.0000E+00	6.0924E+18
Aerosols (kg)	4.8870E-04	1.2050E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2944E+22
Elemental I (atoms)	4.2364E+17	1.5049E+18
Organic I (atoms)	0.0000E+00	2.6549E+18
Aerosols (kg)	1.2048E-04	1.4845E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1822E+20
Elemental I (atoms)	4.8657E+15	1.4970E+14
Organic I (atoms)	6.1859E+15	7.0481E+13
Aerosols (kg)	2.8748E-07	1.4322E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6010E+19
Elemental I (atoms)	0.0000E+00	1.2614E+15
Organic I (atoms)	0.0000E+00	1.3857E+15
Aerosols (kg)	0.0000E+00	8.4483E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.4318E+20	0.0000E+00
Elemental I (atoms)	1.3974E+15	0.0000E+00
Organic I (atoms)	1.4396E+15	0.0000E+00
Aerosols (kg)	9.8655E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0346E-01	1.8027E+01	1.4167E+00
Accumulated dose (rem)	8.7622E+00	1.0707E+02	1.3047E+01

CR Air Intake Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9887E-01	1.2784E+01	1.0047E+00
Accumulated dose (rem)	2.3251E+01	2.2400E+02	3.2664E+01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9148E-02	2.4065E+00	1.1430E-01
Accumulated dose (rem)	8.1091E-01	4.7232E+01	2.7902E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.1046E+05	2.0657E+00	1.4635E+25	7.7179E+21
Kr-85m	1.7532E+02	2.1304E-08	1.5093E+17	9.0594E+21
Kr-87	2.1877E-10	7.7234E-21	5.3462E+04	3.5780E+21
Kr-88	7.8484E-01	6.2591E-11	4.2833E+14	1.4687E+22
Rb-86	1.1692E+02	1.4369E-06	1.0062E+19	1.5234E+18
Sr-89	6.1227E+03	2.1075E-04	1.4260E+21	7.2350E+19
Sr-90	1.0033E+03	7.3554E-03	4.9217E+22	1.1577E+19
Sr-91	4.2330E+01	1.1677E-08	7.7277E+16	2.8681E+19
Sr-92	8.6093E-05	6.8494E-15	4.4835E+10	1.5983E+19
Y-90	5.4300E+02	9.9804E-07	6.6782E+18	2.9013E+18
Y-91	9.9412E+01	4.0537E-06	2.6826E+19	1.0906E+18
Y-92	2.0116E-02	2.0906E-12	1.3685E+13	3.4751E+18
Y-93	4.6873E-01	1.4049E-10	9.0976E+14	2.4045E+17
Zr-95	1.1373E+02	5.2939E-06	3.3558E+19	1.3371E+18
Zr-97	5.9601E+00	3.1177E-09	1.9356E+16	5.5861E+17
Nb-95	1.1731E+02	3.0000E-06	1.9018E+19	1.3544E+18
Mo-99	7.2295E+02	1.5074E-06	9.1692E+18	1.3300E+19
Tc-99m	7.4109E+02	1.4094E-07	8.5733E+17	1.2479E+19
Ru-103	1.2574E+03	3.8961E-05	2.2779E+20	1.4961E+19
Ru-105	1.2217E-02	1.8174E-12	1.0424E+13	2.2239E+18
Ru-106	5.7499E+02	1.7187E-04	9.7642E+20	6.6555E+18
Rh-105	2.4498E+02	2.9024E-07	1.6646E+18	6.7264E+18
Sb-127	8.5214E+02	3.1909E-06	1.5131E+19	1.3642E+19
Sb-129	5.1172E-02	9.0998E-12	4.2481E+13	1.2558E+19
Te-127	1.0578E+03	4.0081E-07	1.9006E+18	1.4744E+19
Te-127m	2.4798E+02	2.6290E-05	1.2466E+20	2.8682E+18
Te-129	8.3746E+02	3.9989E-08	1.8668E+17	1.9380E+19
Te-129m	9.6841E+02	3.2146E-05	1.5007E+20	1.1568E+19
Te-131m	6.2991E+02	7.8995E-07	3.6314E+18	2.1738E+19
Te-132	1.2391E+04	4.0813E-05	1.8620E+20	2.1117E+20
I-131	8.8437E+04	7.1335E-04	3.2793E+21	1.1698E+21
I-132	1.4789E+04	1.4328E-06	6.5367E+18	5.4319E+20
I-133	2.1383E+04	1.8876E-05	8.5471E+19	1.2566E+21
I-135	1.1794E+02	3.3583E-08	1.4981E+17	6.3401E+20
Xe-133	6.3744E+07	3.4054E-01	1.5420E+24	7.4287E+23
Xe-135	1.6326E+05	6.3931E-05	2.8519E+20	6.3907E+22
Cs-134	1.7181E+04	1.3280E-02	5.9680E+22	2.0956E+20
Cs-136	4.0118E+03	5.4738E-05	2.4238E+20	5.3816E+19
Cs-137	1.3662E+04	1.5706E-01	6.9040E+23	1.6637E+20
Ba-140	1.0187E+04	1.3915E-04	5.9857E+20	1.2937E+20
La-140	7.7367E+03	1.3919E-05	5.9874E+19	4.5274E+19
La-141	3.3395E-04	5.9049E-14	2.5220E+11	2.4613E+17
Ce-141	2.5899E+02	9.0895E-06	3.8822E+19	3.1002E+18
Ce-143	5.6642E+01	8.5293E-08	3.5919E+17	1.7518E+18
Ce-144	2.3488E+02	7.3642E-05	3.0797E+20	2.7213E+18
Pr-143	1.0346E+02	1.5363E-06	6.4700E+18	1.1882E+18
Nd-147	3.6658E+01	4.5313E-07	1.8564E+18	4.7285E+17
Np-239	1.3411E+03	5.7810E-06	1.4567E+19	2.6824E+19
Pu-238	8.4878E-01	4.9579E-05	1.2545E+20	9.7905E+15
Pu-239	8.0669E-02	1.2978E-03	3.2702E+21	9.2762E+14
Pu-240	1.4686E-01	6.4450E-04	1.6172E+21	1.6943E+15
Pu-241	3.2418E+01	3.1470E-04	7.8637E+20	3.7409E+17
Am-241	2.1715E-02	6.3270E-06	1.5810E+19	2.4766E+14
Cm-242	5.3486E+00	1.6138E-06	4.0159E+18	6.2167E+16
Cm-244	3.1483E-01	3.8915E-06	9.6045E+18	3.6329E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6178E+25	0.0000E+00	
Elemental I (atoms)	3.6396E+20	5.4908E+22	
Organic I (atoms)	6.3159E+20	0.0000E+00	
Aerosols (kg)	1.8138E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4232E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5202E-05
Total I (Ci)			1.2473E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7999E+22
Elemental I (atoms)	0.0000E+00	3.0463E+18
Organic I (atoms)	0.0000E+00	4.3122E+18
Aerosols (kg)	0.0000E+00	1.6171E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5681E+27
Elemental I (atoms)	0.0000E+00	4.6327E+22
Organic I (atoms)	0.0000E+00	7.3656E+22
Aerosols (kg)	0.0000E+00	2.1947E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5568E+27
Elemental I (atoms)	0.0000E+00	4.5913E+22
Organic I (atoms)	0.0000E+00	7.2976E+22
Aerosols (kg)	0.0000E+00	2.1841E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	1.9616E+04	4.9997E-02	3.5422E+23	7.2578E+14
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8208E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	3.7787E-01	4.6440E-09	3.2520E+16	1.3981E+10
Sr-89	1.6824E+01	5.7910E-07	3.9184E+18	6.2249E+11
Sr-90	2.6802E+00	1.9649E-05	1.3147E+20	9.9168E+10
Sr-91	8.6617E+00	2.3894E-09	1.5813E+16	3.2048E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	5.1874E-01	9.5345E-10	6.3798E+15	1.9193E+10
Y-91	2.4817E-01	1.0120E-08	6.6970E+16	9.1825E+09
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2492E-02	2.1728E-11	1.4070E+14	2.6822E+09
Zr-95	3.1064E-01	1.4460E-08	9.1662E+16	1.1494E+10
Zr-97	1.6139E-01	8.4422E-11	5.2412E+14	5.9713E+09
Nb-95	3.1369E-01	8.0220E-09	5.0852E+16	1.1606E+10
Mo-99	3.3239E+00	6.9304E-09	4.2157E+16	1.2299E+11

Tc-99m	3.1807E+00	6.0489E-10	3.6795E+15	1.1768E+11
Ru-103	3.4834E+00	1.0793E-07	6.3105E+17	1.2888E+11
Ru-105	6.2810E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	1.5418E+00	4.6084E-07	2.6181E+18	5.7045E+10
Rh-105	1.7728E+00	2.1004E-09	1.2046E+16	6.5595E+10
Sb-127	3.3395E+00	1.2505E-08	5.9298E+16	1.2356E+11
Sb-129	3.5267E+00	6.2715E-10	2.9278E+15	1.3049E+11
Te-127	3.6098E+00	1.3678E-09	6.4859E+15	1.3356E+11
Te-127m	6.6428E-01	7.0424E-08	3.3394E+17	2.4578E+10
Te-129	5.6471E+00	2.6965E-10	1.2588E+15	2.0894E+11
Te-129m	2.6952E+00	8.9468E-08	4.1766E+17	9.9724E+10
Te-131m	5.8548E+00	7.3423E-09	3.3753E+16	2.1663E+11
Te-132	5.2189E+01	1.7190E-07	7.8426E+17	1.9310E+12
I-131	9.2250E+02	7.4410E-06	3.4207E+19	3.4132E+13
I-132	2.9845E+02	2.8914E-08	1.3191E+17	1.1043E+13
I-133	1.0215E+03	9.0174E-07	4.0830E+18	3.7795E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4255E+02	1.2602E-07	5.6214E+17	1.6374E+13
Xe-133	1.9231E+06	1.0274E-02	4.6520E+22	7.1155E+16
Xe-135	1.8413E+05	7.2103E-05	3.2164E+20	6.8128E+15
Cs-134	5.1346E+01	3.9685E-05	1.7835E+20	1.8998E+12
Cs-136	1.3419E+01	1.8310E-07	8.1075E+17	4.9651E+11
Cs-137	4.0752E+01	4.6851E-04	2.0594E+21	1.5078E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	3.0475E+01	4.1627E-07	1.7906E+18	1.1276E+12
La-140	8.2515E+00	1.4845E-08	6.3858E+16	3.0530E+11
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	7.2260E-01	2.5360E-08	1.0831E+17	2.6736E+10
Ce-143	4.6664E-01	7.0268E-10	2.9592E+15	1.7266E+10
Ce-144	6.3051E-01	1.9769E-07	8.2673E+17	2.3329E+10
Pr-143	2.7376E-01	4.0654E-09	1.7121E+16	1.0129E+10
Nd-147	1.1170E-01	1.3807E-09	5.6562E+15	4.1327E+09
Np-239	6.7827E+00	2.9237E-08	7.3669E+16	2.5096E+11
Pu-238	2.2665E-03	1.3239E-07	3.3499E+17	8.3861E+07
Pu-239	2.1461E-04	3.4527E-06	8.6998E+18	7.9404E+06
Pu-240	3.9225E-04	1.7214E-06	4.3194E+18	1.4513E+07
Pu-241	8.6610E-02	8.4077E-07	2.1009E+18	3.2046E+09
Am-241	5.7219E-05	1.6671E-08	4.1658E+16	2.1171E+06
Cm-242	1.4412E-02	4.3484E-09	1.0821E+16	5.3325E+08
Cm-244	8.4108E-04	1.0396E-08	2.5659E+16	3.1120E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.0110E+23	1.5475E+18
Elemental I (atoms)	1.0235E+19	3.9486E+13
Organic I (atoms)	1.9195E+19	7.4055E+13
Aerosols (kg)	5.3855E-04	2.0777E-09

Dose Effective (Ci) I-131 (Thyroid)	1.1072E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.2442E+03
Total I (Ci)	2.7465E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6347E+23
Elemental I (atoms)	7.8358E+17	4.8425E+18
Organic I (atoms)	0.0000E+00	7.8859E+18
Aerosols (kg)	2.7262E-03	3.7810E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.6335E+23
Elemental I (atoms)    1.3844E+18  3.7543E+18
Organic I (atoms)      0.0000E+00  7.8720E+18
Aerosols (kg)          5.7875E-04  1.4270E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4512E+22
Elemental I (atoms)    6.6563E+17  1.6833E+18
Organic I (atoms)      0.0000E+00  3.5399E+18
Aerosols (kg)          1.4412E-04  1.7758E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4544E+20
Elemental I (atoms)    5.1720E+15  1.5280E+14
Organic I (atoms)      7.2923E+15  8.1657E+13
Aerosols (kg)          3.0837E-07  1.4533E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1984E+19
Elemental I (atoms)    0.0000E+00  1.3292E+15
Organic I (atoms)      0.0000E+00  1.6310E+15
Aerosols (kg)          0.0000E+00  8.9114E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    1.7638E+20  0.0000E+00
Elemental I (atoms)    1.4692E+15  0.0000E+00
Organic I (atoms)      1.6960E+15  0.0000E+00
Aerosols (kg)          1.0350E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.8746E-01  1.4724E+01  1.1976E+00
Accumulated dose (rem)  9.3496E+00  1.2179E+02  1.4245E+01

CR Air Intake Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1660E-01  1.0442E+01  8.4928E-01
Accumulated dose (rem)  2.3667E+01  2.3444E+02  3.3513E+01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6009E-02  1.9657E+00  9.7398E-02
Accumulated dose (rem)  8.2692E-01  4.9198E+01  2.8875E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.5046E+00  1.4166E-07  1.4709E+18  6.8096E+16
Co-60                  5.5986E+00  4.9528E-06  4.9711E+19  8.2848E+16
Kr-85                  8.0709E+05  2.0572E+00  1.4575E+25  1.0303E+22
Kr-85m                 4.2603E+00  5.1768E-10  3.6677E+15  9.0596E+21
Kr-88                  2.2343E-03  1.7818E-13  1.2194E+12  1.4687E+22
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Rb-86	1.1221E+02	1.3790E-06	9.6567E+18	1.8896E+18
Sr-89	6.0152E+03	2.0705E-04	1.4010E+21	9.1749E+19
Sr-90	9.9928E+02	7.3257E-03	4.9018E+22	1.4778E+19
Sr-91	7.3184E+00	2.0189E-09	1.3360E+16	2.8745E+19
Sr-92	1.8505E-07	1.4722E-17	9.6369E+07	1.5983E+19
Y-90	6.4702E+02	1.1892E-06	7.9575E+18	4.7935E+18
Y-91	9.7949E+01	3.9940E-06	2.6432E+19	1.4061E+18
Y-92	1.8451E-04	1.9176E-14	1.2552E+11	3.4751E+18
Y-93	8.9925E-02	2.6953E-11	1.7453E+14	2.4119E+17
Zr-95	1.1206E+02	5.2160E-06	3.3065E+19	1.6980E+18
Zr-97	2.2183E+00	1.1604E-09	7.2043E+15	5.7071E+17
Nb-95	1.1674E+02	2.9855E-06	1.8925E+19	1.7283E+18
Mo-99	5.5965E+02	1.1669E-06	7.0980E+18	1.5338E+19
Tc-99m	5.7377E+02	1.0912E-07	6.6376E+17	1.4464E+19
Ru-103	1.2305E+03	3.8127E-05	2.2292E+20	1.8937E+19
Ru-105	2.8710E-04	4.2710E-14	2.4496E+11	2.2239E+18
Ru-106	5.7163E+02	1.7086E-04	9.7071E+20	8.4881E+18
Rh-105	1.5243E+02	1.8060E-07	1.0358E+18	7.3499E+18
Sb-127	7.0891E+02	2.6546E-06	1.2588E+19	1.6130E+19
Sb-129	1.0837E-03	1.9271E-13	8.9965E+11	1.2558E+19
Te-127	9.2164E+02	3.4923E-07	1.6560E+18	1.7796E+19
Te-127m	2.4631E+02	2.6113E-05	1.2382E+20	3.6582E+18
Te-129	8.1703E+02	3.9014E-08	1.8213E+17	2.1372E+19
Te-129m	9.4487E+02	3.1365E-05	1.4642E+20	1.4626E+19
Te-131m	3.6035E+02	4.5190E-07	2.0774E+18	2.3281E+19
Te-132	9.9764E+03	3.2861E-05	1.4992E+20	2.4678E+20
I-131	8.0841E+04	6.5207E-04	2.9976E+21	1.4402E+21
I-132	1.1908E+04	1.1536E-06	5.2631E+18	5.8004E+20
I-133	9.5720E+03	8.4498E-06	3.8260E+19	1.3035E+21
I-135	9.4827E+00	2.7002E-09	1.2045E+16	6.3415E+20
Xe-133	5.5632E+07	2.9721E-01	1.3457E+24	9.3337E+23
Xe-135	2.6105E+04	1.0222E-05	4.5600E+19	6.4146E+22
Cs-134	1.7097E+04	1.3215E-02	5.9388E+22	2.6435E+20
Cs-136	3.7899E+03	5.1710E-05	2.2897E+20	6.6282E+19
Cs-137	1.3606E+04	1.5643E-01	6.8761E+23	2.0995E+20
Ba-140	9.6094E+03	1.3126E-04	5.6462E+20	1.6100E+20
La-140	8.4627E+03	1.5225E-05	6.5492E+19	7.1036E+19
La-141	4.8261E-06	8.5336E-16	3.6447E+09	2.4613E+17
Ce-141	2.5252E+02	8.8624E-06	3.7851E+19	3.9177E+18
Ce-143	3.4078E+01	5.1316E-08	2.1611E+17	1.8937E+18
Ce-144	2.3338E+02	7.3170E-05	3.0600E+20	3.4697E+18
Pr-143	1.0012E+02	1.4867E-06	6.2611E+18	1.5137E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8618E+17
Np-239	9.9522E+02	4.2899E-06	1.0809E+19	3.0530E+19
Pu-238	8.4550E-01	4.9388E-05	1.2497E+20	1.2498E+16
Pu-239	8.0440E-02	1.2942E-03	3.2609E+21	1.1851E+15
Pu-240	1.4628E-01	6.4193E-04	1.6108E+21	2.1628E+15
Pu-241	3.2285E+01	3.1340E-04	7.8314E+20	4.7750E+17
Am-241	2.1771E-02	6.3431E-06	1.5850E+19	3.1715E+14
Cm-242	5.3047E+00	1.6006E-06	3.9830E+18	7.9194E+16
Cm-244	3.1355E-01	3.8756E-06	9.5653E+18	4.6372E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5920E+25	0.0000E+00	
Elemental I (atoms)	3.2830E+20	5.4908E+22	
Organic I (atoms)	5.6971E+20	0.0000E+00	
Aerosols (kg)	1.8056E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.0670E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1162E-05
Total I (Ci)			1.0233E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23

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Elemental I (atoms)    0.0000E+00  7.0188E+18
Organic I (atoms)      0.0000E+00  1.0228E+19
Aerosols (kg)          0.0000E+00  3.7194E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1885E+23
Elemental I (atoms)    0.0000E+00  7.0188E+18
Organic I (atoms)      0.0000E+00  1.0228E+19
Aerosols (kg)          0.0000E+00  3.7194E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0917E+23
Elemental I (atoms)    0.0000E+00  3.5029E+18
Organic I (atoms)      0.0000E+00  5.1046E+18
Aerosols (kg)          0.0000E+00  1.8558E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0790E+27
Elemental I (atoms)    0.0000E+00  5.7350E+22
Organic I (atoms)      0.0000E+00  9.2784E+22
Aerosols (kg)          0.0000E+00  2.7708E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0678E+27
Elemental I (atoms)    0.0000E+00  5.6937E+22
Organic I (atoms)      0.0000E+00  9.2106E+22
Aerosols (kg)          0.0000E+00  2.7602E+01

Environment Integral Nuclide Release:

Time (h) =  96.0000       Ci           kg          Atoms         Bq
Co-58                  1.4540E-02  4.5728E-10  4.7479E+15  5.3800E+08
Co-60                  1.7619E-02  1.5587E-08  1.5645E+17  6.5191E+08
Kr-85                  2.4980E+04  6.3671E-02  4.5110E+23  9.2427E+14
Kr-85m                 2.3840E+04  2.8969E-06  2.0524E+19  8.8209E+14
Kr-87                  5.7189E+03  2.0190E-07  1.3975E+18  2.1160E+14
Kr-88                  3.3554E+04  2.6760E-06  1.8312E+19  1.2415E+15
Rb-86                  4.3070E-01  5.2933E-09  3.7066E+16  1.5936E+10
Sr-89                  1.9624E+01  6.7548E-07  4.5706E+18  7.2609E+11
Sr-90                  3.1423E+00  2.3037E-05  1.5414E+20  1.1627E+11
Sr-91                  8.6706E+00  2.3919E-09  1.5829E+16  3.2081E+11
Sr-92                  3.9405E+00  3.1350E-10  2.0521E+15  1.4580E+11
Y-90                   7.9547E-01  1.4621E-09  9.7833E+15  2.9432E+10
Y-91                   2.9371E-01  1.1977E-08  7.9258E+16  1.0867E+10
Y-92                   2.1033E+00  2.1858E-10  1.4308E+15  7.7820E+10
Y-93                   7.2595E-02  2.1759E-11  1.4090E+14  2.6860E+09
Zr-95                  3.6273E-01  1.6884E-08  1.0703E+17  1.3421E+10
Zr-97                  1.6310E-01  8.5317E-11  5.2968E+14  6.0347E+09
Nb-95                  3.6770E-01  9.4033E-09  5.9608E+16  1.3605E+10
Mo-99                  3.6168E+00  7.5409E-09  4.5871E+16  1.3382E+11
Tc-99m                 3.4809E+00  6.6199E-10  4.0268E+15  1.2879E+11
Ru-103                 4.0573E+00  1.2571E-07  7.3501E+17  1.5012E+11
Ru-105                 6.2811E-01  9.3440E-11  5.3591E+14  2.3240E+10
Ru-106                 1.8064E+00  5.3992E-07  3.0674E+18  6.6835E+10
Rh-105                 1.8620E+00  2.2060E-09  1.2652E+16  6.8893E+10
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Sb-127	3.6974E+00	1.3845E-08	6.5652E+16	1.3680E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	4.0644E+00	1.5401E-09	7.3028E+15	1.5038E+11
Te-127m	7.7834E-01	8.2516E-08	3.9128E+17	2.8799E+10
Te-129	6.0288E+00	2.8787E-10	1.3439E+15	2.2306E+11
Te-129m	3.1366E+00	1.0412E-07	4.8605E+17	1.1605E+11
Te-131m	6.0750E+00	7.6184E-09	3.5022E+16	2.2477E+11
Te-132	5.7307E+01	1.8876E-07	8.6118E+17	2.1204E+12
I-131	1.0710E+03	8.6386E-06	3.9712E+19	3.9626E+13
I-132	3.1557E+02	3.0572E-08	1.3948E+17	1.1676E+13
I-133	1.0469E+03	9.2418E-07	4.1846E+18	3.8736E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4262E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	2.3173E+06	1.2380E-02	5.6056E+22	8.5741E+16
Xe-135	1.8461E+05	7.2290E-05	3.2247E+20	6.8305E+15
Cs-134	5.9256E+01	4.5799E-05	2.0583E+20	2.1925E+12
Cs-136	1.5217E+01	2.0763E-07	9.1938E+17	5.6303E+11
Cs-137	4.7044E+01	5.4085E-04	2.3774E+21	1.7406E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	3.5037E+01	4.7858E-07	2.0586E+18	1.2964E+12
La-140	1.2018E+01	2.1621E-08	9.3005E+16	4.4466E+11
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	8.4058E-01	2.9501E-08	1.2600E+17	3.1101E+10
Ce-143	4.8692E-01	7.3323E-10	3.0878E+15	1.8016E+10
Ce-144	7.3857E-01	2.3156E-07	9.6840E+17	2.7327E+10
Pr-143	3.2075E-01	4.7632E-09	2.0059E+16	1.1868E+10
Nd-147	1.2804E-01	1.5827E-09	6.4838E+15	4.7374E+09
Np-239	7.3146E+00	3.1530E-08	7.9446E+16	2.7064E+11
Pu-238	2.6575E-03	1.5523E-07	3.9278E+17	9.8327E+07
Pu-239	2.5179E-04	4.0509E-06	1.0207E+19	9.3161E+06
Pu-240	4.5990E-04	2.0183E-06	5.0643E+18	1.7016E+07
Pu-241	1.0154E-01	9.8571E-07	2.4631E+18	3.7570E+09
Am-241	6.7255E-05	1.9595E-08	4.8965E+16	2.4884E+06
Cm-242	1.6870E-02	5.0901E-09	1.2667E+16	6.2420E+08
Cm-244	9.8609E-04	1.2189E-08	3.0083E+16	3.6485E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s
Noble gases (atoms)	5.0752E+23	1.4685E+18
Elemental I (atoms)	1.0843E+19	3.1375E+13
Organic I (atoms)	2.3162E+19	6.7021E+13
Aerosols (kg)	6.2207E-04	1.8000E-09
Dose Effective (Ci) I-131 (Thyroid)		1.2600E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.4001E+03
Total I (Ci)		2.9376E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0609E+23
Elemental I (atoms)	1.2666E+18	5.2790E+18
Organic I (atoms)	0.0000E+00	9.4817E+18
Aerosols (kg)	3.1482E-03	4.3664E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0597E+23
Elemental I (atoms)	1.8661E+18	3.8693E+18
Organic I (atoms)	0.0000E+00	9.4674E+18
Aerosols (kg)	6.6838E-04	1.6480E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5729E+22
Elemental I (atoms)	9.1633E+17	1.7431E+18
Organic I (atoms)	0.0000E+00	4.3337E+18
Aerosols (kg)	1.6754E-04	2.0644E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7221E+20
Elemental I (atoms)	5.3241E+15	1.5433E+14
Organic I (atoms)	8.2843E+15	9.1678E+13
Aerosols (kg)	3.2916E-07	1.4743E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7859E+19
Elemental I (atoms)	0.0000E+00	1.3630E+15
Organic I (atoms)	0.0000E+00	1.8509E+15
Aerosols (kg)	0.0000E+00	9.3723E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.0903E+20	0.0000E+00
Elemental I (atoms)	1.5052E+15	0.0000E+00
Organic I (atoms)	1.9259E+15	0.0000E+00
Aerosols (kg)	1.0832E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2282E+00	6.0180E+01	5.0011E+00
Accumulated dose (rem)	1.1578E+01	1.8197E+02	1.9246E+01

CR Air Intake Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.6642E-01	2.3401E+01	1.9447E+00
Accumulated dose (rem)	2.4534E+01	2.5784E+02	3.5458E+01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3430E-02	4.4115E+00	2.3664E-01
Accumulated dose (rem)	8.6035E-01	5.3609E+01	3.1242E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.8720E+05	2.0064E+00	1.4215E+25	2.5591E+22
Kr-85m	8.7719E-10	1.0659E-19	7.5518E+05	9.0596E+21
Rb-86	8.7670E+01	1.0775E-06	7.5449E+18	3.7967E+18
Sr-89	5.4089E+03	1.8618E-04	1.2598E+21	2.0120E+20
Sr-90	9.7530E+02	7.1499E-03	4.7842E+22	3.3712E+19
Sr-91	1.9546E-04	5.3920E-14	3.5683E+11	2.8758E+19
Y-90	9.0737E+02	1.6678E-06	1.1159E+19	2.0287E+19
Y-91	8.9094E+01	3.6329E-06	2.4042E+19	3.1986E+18

Y-93	4.4832E-06	1.3438E-15	8.7014E+09	2.4136E+17
Zr-95	1.0252E+02	4.7723E-06	3.0252E+19	3.7543E+18
Zr-97	5.8974E-03	3.0849E-12	1.9152E+13	5.7787E+17
Nb-95	1.1297E+02	2.8889E-06	1.8313E+19	3.9312E+18
Mo-99	1.2043E+02	2.5110E-07	1.5275E+18	2.0822E+19
Tc-99m	1.2347E+02	2.3482E-08	1.4284E+17	1.9802E+19
Ru-103	1.0807E+03	3.3487E-05	1.9579E+20	4.1070E+19
Ru-106	5.5187E+02	1.6495E-04	9.3715E+20	1.9261E+19
Rh-105	8.8468E+00	1.0481E-08	6.0114E+16	8.3173E+18
Sb-127	2.3500E+02	8.7999E-07	4.1728E+18	2.4362E+19
Te-127	4.6140E+02	1.7483E-07	8.2902E+17	2.9866E+19
Te-127m	2.3434E+02	2.4843E-05	1.1780E+20	8.2711E+18
Te-129	7.0487E+02	3.3658E-08	1.5712E+17	3.2343E+19
Te-129m	8.1515E+02	2.7059E-05	1.2632E+20	3.1473E+19
Te-131m	1.2630E+01	1.5839E-08	7.2812E+16	2.5271E+19
Te-132	2.7181E+03	8.9532E-06	4.0847E+19	3.5384E+20
I-131	4.7083E+04	3.7978E-04	1.7459E+21	2.6380E+21
I-132	3.2444E+03	3.1431E-07	1.4340E+18	6.9086E+20
I-133	7.7014E+01	6.7985E-08	3.0783E+17	1.3413E+21
I-135	2.5619E-06	7.2950E-16	3.2542E+09	6.3416E+20
Xe-133	2.4581E+07	1.3132E-01	5.9462E+23	1.6625E+24
Xe-135	4.3443E-01	1.7012E-10	7.5886E+14	6.4192E+22
Cs-134	1.6602E+04	1.2832E-02	5.7666E+22	5.8749E+20
Cs-136	2.6938E+03	3.6755E-05	1.6275E+20	1.2786E+20
Cs-137	1.3280E+04	1.5268E-01	6.7112E+23	4.6777E+20
Ba-140	6.7693E+03	9.2466E-05	3.9774E+20	3.1647E+20
La-140	7.6424E+03	1.3750E-05	5.9144E+19	2.3130E+20
Ce-141	2.1694E+02	7.6138E-06	3.2519E+19	8.4110E+18
Ce-143	1.6163E+00	2.4338E-09	1.0250E+16	2.0979E+18
Ce-144	2.2456E+02	7.0405E-05	2.9444E+20	7.8606E+18
Pr-143	7.4515E+01	1.1066E-06	4.6601E+18	3.1882E+18
Nd-147	2.2916E+01	2.8327E-07	1.1605E+18	1.1274E+18
Np-239	1.6618E+02	7.1633E-07	1.8050E+18	3.9414E+19
Pu-238	8.2610E-01	4.8254E-05	1.2210E+20	2.8528E+16
Pu-239	7.8756E-02	1.2671E-03	3.1926E+21	2.7123E+15
Pu-240	1.4282E-01	6.2678E-04	1.5727E+21	4.9350E+15
Pu-241	3.1497E+01	3.0576E-04	7.6404E+20	1.0891E+18
Am-241	2.2086E-02	6.4351E-06	1.6080E+19	7.3771E+14
Cm-242	5.0488E+00	1.5234E-06	3.7908E+18	1.7846E+17
Cm-244	3.0595E-01	3.7817E-06	9.3336E+18	1.0578E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	1.4810E+25	0.0000E+00
Elemental I (atoms)	1.8866E+20	5.4908E+22
Organic I (atoms)	3.2739E+20	0.0000E+00
Aerosols (kg)	1.7587E-01	5.2582E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	1.7514E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	1.7553E-05
Total I (Ci)		5.0404E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19

Aerosols (kg)	0.0000E+00	6.5555E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3036E+23
Elemental I (atoms)	0.0000E+00	5.4940E+18
Organic I (atoms)	0.0000E+00	8.5598E+18
Aerosols (kg)	0.0000E+00	3.2657E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0043E+27
Elemental I (atoms)	0.0000E+00	1.0541E+23
Organic I (atoms)	0.0000E+00	1.7619E+23
Aerosols (kg)	0.0000E+00	6.1741E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9934E+27
Elemental I (atoms)	0.0000E+00	1.0500E+23
Organic I (atoms)	0.0000E+00	1.7551E+23
Aerosols (kg)	0.0000E+00	6.1638E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	5.6704E+04	1.4453E-01	1.0240E+24	2.0981E+15
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8209E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	7.0584E-01	8.6747E-09	6.0744E+16	2.6116E+10
Sr-89	3.5422E+01	1.2193E-06	8.2501E+18	1.3106E+12
Sr-90	5.8762E+00	4.3078E-05	2.8825E+20	2.1742E+11
Sr-91	8.6724E+00	2.3924E-09	1.5832E+16	3.2088E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	3.0500E+00	5.6060E-09	3.7511E+16	1.1285E+11
Y-91	5.5245E-01	2.2527E-08	1.4908E+17	2.0441E+10
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2619E-02	2.1766E-11	1.4095E+14	2.6869E+09
Zr-95	6.5956E-01	3.0702E-08	1.9462E+17	2.4404E+10
Zr-97	1.6411E-01	8.5847E-11	5.3297E+14	6.0721E+09
Nb-95	6.8587E-01	1.7540E-08	1.1119E+17	2.5377E+10
Mo-99	4.4043E+00	9.1830E-09	5.5860E+16	1.6296E+11
Tc-99m	4.2883E+00	8.1554E-10	4.9609E+15	1.5867E+11
Ru-103	7.2517E+00	2.2469E-07	1.3137E+18	2.6831E+11
Ru-105	6.2811E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	3.3617E+00	1.0048E-06	5.7086E+18	1.2438E+11
Rh-105	2.0003E+00	2.3699E-09	1.3592E+16	7.4011E+10
Sb-127	4.8815E+00	1.8279E-08	8.6677E+16	1.8062E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	5.8639E+00	2.2219E-09	1.0536E+16	2.1696E+11
Te-127m	1.4443E+00	1.5312E-07	7.2608E+17	5.3441E+10
Te-129	8.1312E+00	3.8827E-10	1.8126E+15	3.0085E+11
Te-129m	5.5680E+00	1.8483E-07	8.6283E+17	2.0601E+11
Te-131m	6.3590E+00	7.9746E-09	3.6660E+16	2.3528E+11
Te-132	7.2697E+01	2.3945E-07	1.0924E+18	2.6898E+12
I-131	1.6928E+03	1.3655E-05	6.2772E+19	6.2635E+13
I-132	3.6469E+02	3.5331E-08	1.6119E+17	1.3494E+13
I-133	1.0662E+03	9.4123E-07	4.2618E+18	3.9451E+13

I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4263E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	3.8262E+06	2.0441E-02	9.2556E+22	1.4157E+17
Xe-135	1.8470E+05	7.2325E-05	3.2263E+20	6.8338E+15
Cs-134	1.0591E+02	8.1859E-05	3.6788E+20	3.9187E+12
Cs-136	2.4098E+01	3.2880E-07	1.4560E+18	8.9164E+11
Cs-137	8.4269E+01	9.6881E-04	4.2586E+21	3.1179E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	5.7459E+01	7.8487E-07	3.3761E+18	2.1260E+12
La-140	3.5345E+01	6.3591E-08	2.7354E+17	1.3078E+12
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	1.4890E+00	5.2259E-08	2.2320E+17	5.5095E+10
Ce-143	5.1610E-01	7.7716E-10	3.2729E+15	1.9096E+10
Ce-144	1.3725E+00	4.3032E-07	1.7996E+18	5.0782E+10
Pr-143	5.6233E-01	8.3508E-09	3.5168E+16	2.0806E+10
Nd-147	2.0607E-01	2.5473E-09	1.0435E+16	7.6247E+09
Np-239	8.5894E+00	3.7025E-08	9.3292E+16	3.1781E+11
Pu-238	4.9719E-03	2.9042E-07	7.3485E+17	1.8396E+08
Pu-239	4.7228E-04	7.5983E-06	1.9146E+19	1.7475E+07
Pu-240	8.6016E-04	3.7748E-06	9.4719E+18	3.1826E+07
Pu-241	1.8985E-01	1.8429E-06	4.6052E+18	7.0243E+09
Am-241	1.2799E-04	3.7292E-08	9.3186E+16	4.7357E+06
Cm-242	3.1201E-02	9.4142E-09	2.3427E+16	1.1544E+09
Cm-244	1.8438E-03	2.2790E-08	5.6248E+16	6.8220E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1169E+24	1.2927E+18	
Elemental I (atoms)	1.2162E+19	1.4076E+13	
Organic I (atoms)	4.0472E+19	4.6842E+13	
Aerosols (kg)	1.1155E-03	1.2911E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.8854E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0289E+03
Total I (Ci)			3.6279E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5014E+23
Elemental I (atoms)	4.1564E+18	6.3989E+18
Organic I (atoms)	0.0000E+00	1.6440E+19
Aerosols (kg)	5.6418E-03	7.8247E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5002E+23
Elemental I (atoms)	3.5872E+18	4.0026E+18
Organic I (atoms)	0.0000E+00	1.6424E+19
Aerosols (kg)	1.1980E-03	2.9538E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1721E+23
Elemental I (atoms)	1.8221E+18	1.8133E+18
Organic I (atoms)	0.0000E+00	7.7958E+18
Aerosols (kg)	3.0583E-04	3.7684E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9857E+20
Elemental I (atoms)	5.5957E+15	1.5708E+14
Organic I (atoms)	1.1850E+16	1.2770E+14
Aerosols (kg)	4.3042E-07	1.5766E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5587E+19
Elemental I (atoms)	0.0000E+00	1.4232E+15
Organic I (atoms)	0.0000E+00	2.6413E+15
Aerosols (kg)	0.0000E+00	1.1617E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	3.6327E+20	0.0000E+00
Elemental I (atoms)	1.5686E+15	0.0000E+00
Organic I (atoms)	2.7532E+15	0.0000E+00
Aerosols (kg)	1.3181E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6707E+00	6.6344E+01	6.5652E+00
Accumulated dose (rem)	1.3248E+01	2.4832E+02	2.5811E+01

CR Air Intake Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.4962E-01	2.5797E+01	2.5528E+00
Accumulated dose (rem)	2.5183E+01	2.8364E+02	3.8011E+01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4845E-02	4.8552E+00	3.8300E-01
Accumulated dose (rem)	8.8519E-01	5.8464E+01	3.5072E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.2436E+05	1.8463E+00	1.3081E+25	7.3881E+22
Rb-86	3.8513E+01	4.7333E-07	3.3145E+18	7.6171E+18
Sr-89	3.7957E+03	1.3065E-04	8.8405E+20	4.9239E+20
Sr-90	8.9946E+02	6.5939E-03	4.4122E+22	9.3607E+19
Y-90	9.0419E+02	1.6619E-06	1.1120E+19	7.9312E+19
Y-91	6.4917E+01	2.6471E-06	1.7518E+19	8.0808E+18
Zr-95	7.6231E+01	3.5484E-06	2.2494E+19	9.4268E+18
Zr-97	1.5350E-11	8.0295E-21	4.9850E+04	5.7789E+17
Nb-95	9.7599E+01	2.4959E-06	1.5822E+19	1.0675E+19
Mo-99	7.1919E-01	1.4995E-09	9.1215E+15	2.2316E+19
Tc-99m	7.3734E-01	1.4023E-10	8.5299E+14	2.1257E+19
Ru-103	7.0123E+02	2.1727E-05	1.2703E+20	9.7160E+19
Ru-106	4.9078E+02	1.4670E-04	8.3342E+20	5.2551E+19
Rh-105	6.6960E-04	7.9331E-13	4.5499E+12	8.3769E+18
Sb-127	5.9250E+00	2.2187E-08	1.0521E+17	2.8341E+19
Te-127	2.0129E+02	7.6273E-08	3.6167E+17	4.6881E+19
Te-127m	1.9177E+02	2.0331E-05	9.6405E+19	2.1868E+19
Te-129	4.3085E+02	2.0573E-08	9.6043E+16	5.9146E+19
Te-129m	4.9826E+02	1.6540E-05	7.7213E+19	7.2629E+19

Te-131m	1.7796E-04	2.2318E-13	1.0260E+12	2.5344E+19
Te-132	3.5639E+01	1.1739E-07	5.3556E+17	3.9340E+20
I-131	7.7528E+03	6.2535E-05	2.8748E+20	4.0320E+21
I-132	4.2539E+01	4.1211E-09	1.8801E+16	7.3182E+20
I-133	8.0377E-06	7.0954E-15	3.2127E+10	1.3416E+21
Xe-133	1.6149E+06	8.6272E-03	3.9063E+22	2.2018E+24
Cs-134	1.5051E+04	1.1633E-02	5.2280E+22	1.5985E+21
Cs-136	8.6336E+02	1.1780E-05	5.2162E+19	2.3070E+20
Cs-137	1.2248E+04	1.4081E-01	6.1895E+23	1.2833E+21
Ba-140	2.1056E+03	2.8762E-05	1.2372E+20	5.7179E+20
La-140	2.4459E+03	4.4004E-06	1.8929E+19	5.2399E+20
Ce-141	1.3077E+02	4.5895E-06	1.9602E+19	1.9294E+19
Ce-143	6.2417E-05	9.3989E-14	3.9582E+11	2.1081E+18
Ce-144	1.9749E+02	6.1920E-05	2.5895E+20	2.1333E+19
Pr-143	2.4815E+01	3.6851E-07	1.5519E+18	6.0810E+18
Nd-147	5.9873E+00	7.4010E-08	3.0320E+17	1.9337E+18
Np-239	4.2607E-01	1.8366E-09	4.6276E+15	4.1190E+19
Pu-238	7.6445E-01	4.4653E-05	1.1299E+20	7.9345E+16
Pu-239	7.2767E-02	1.1707E-03	2.9499E+21	7.5542E+15
Pu-240	1.3189E-01	5.7879E-04	1.4523E+21	1.3712E+16
Pu-241	2.9009E+01	2.8161E-04	7.0369E+20	3.0221E+18
Am-241	2.2944E-02	6.6850E-06	1.6705E+19	2.1785E+15
Cm-242	4.2817E+00	1.2919E-06	3.2149E+18	4.7604E+17
Cm-244	2.8193E-01	3.4849E-06	8.6010E+18	2.9359E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3120E+25	0.0000E+00	
Elemental I (atoms)	3.1036E+19	5.4908E+22	
Organic I (atoms)	5.3858E+19	0.0000E+00	
Aerosols (kg)	1.6163E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8821E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.8825E-06
Total I (Ci)			7.7953E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9551E+23
Elemental I (atoms)	0.0000E+00	7.8011E+18
Organic I (atoms)	0.0000E+00	1.2563E+19
Aerosols (kg)	0.0000E+00	7.7128E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3818E+28

Elemental I (atoms)	0.0000E+00	1.6110E+23
Organic I (atoms)	0.0000E+00	2.7282E+23
Aerosols (kg)	0.0000E+00	1.6908E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3808E+28
Elemental I (atoms)	0.0000E+00	1.6069E+23
Organic I (atoms)	0.0000E+00	2.7216E+23
Aerosols (kg)	0.0000E+00	1.6899E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.5691E+05	3.9994E-01	2.8335E+24	5.8057E+15
Kr-85m	2.3840E+04	2.8969E-06	2.0524E+19	8.8209E+14
Kr-87	5.7189E+03	2.0190E-07	1.3975E+18	2.1160E+14
Kr-88	3.3554E+04	2.6760E-06	1.8312E+19	1.2415E+15
Rb-86	1.2570E+00	1.5449E-08	1.0818E+17	4.6510E+10
Sr-89	7.7453E+01	2.6660E-06	1.8039E+19	2.8658E+12
Sr-90	1.4524E+01	1.0647E-04	7.1245E+20	5.3738E+11
Sr-91	8.6724E+00	2.3924E-09	1.5832E+16	3.2088E+11
Sr-92	3.9405E+00	3.1350E-10	2.0521E+15	1.4580E+11
Y-90	1.1620E+01	2.1357E-08	1.4291E+17	4.2993E+11
Y-91	1.2572E+00	5.1264E-08	3.3925E+17	4.6516E+10
Y-92	2.1033E+00	2.1858E-10	1.4308E+15	7.7820E+10
Y-93	7.2619E-02	2.1766E-11	1.4095E+14	2.6869E+09
Zr-95	1.4784E+00	6.8817E-08	4.3624E+17	5.4700E+10
Zr-97	1.6411E-01	8.5848E-11	5.3298E+14	6.0722E+09
Nb-95	1.6599E+00	4.2448E-08	2.6908E+17	6.1415E+10
Mo-99	4.6190E+00	9.6306E-09	5.8583E+16	1.7090E+11
Tc-99m	4.5084E+00	8.5740E-10	5.2155E+15	1.6681E+11
Ru-103	1.5347E+01	4.7553E-07	2.7803E+18	5.6784E+11
Ru-105	6.2811E-01	9.3440E-11	5.3591E+14	2.3240E+10
Ru-106	8.1681E+00	2.4415E-06	1.3871E+19	3.0222E+11
Rh-105	2.0088E+00	2.3800E-09	1.3650E+16	7.4326E+10
Sb-127	5.4539E+00	2.0423E-08	9.6841E+16	2.0179E+11
Sb-129	3.5267E+00	6.2716E-10	2.9278E+15	1.3049E+11
Te-127	8.4083E+00	3.1860E-09	1.5108E+16	3.1111E+11
Te-127m	3.4072E+00	3.6122E-07	1.7128E+18	1.2607E+11
Te-129	1.3267E+01	6.3352E-10	2.9575E+15	4.9089E+11
Te-129m	1.1508E+01	3.8199E-07	1.7833E+18	4.2578E+11
Te-131m	6.3693E+00	7.9876E-09	3.6719E+16	2.3566E+11
Te-132	7.8384E+01	2.5819E-07	1.1779E+18	2.9002E+12
I-131	2.3790E+03	1.9190E-05	8.8216E+19	8.8025E+13
I-132	3.8215E+02	3.7022E-08	1.6890E+17	1.4139E+13
I-133	1.0664E+03	9.4136E-07	4.2624E+18	3.9456E+13
I-134	6.1501E+01	2.3054E-09	1.0361E+16	2.2755E+12
I-135	4.4263E+02	1.2604E-07	5.6223E+17	1.6377E+13
Xe-133	4.9421E+06	2.6403E-02	1.1955E+23	1.8286E+17
Xe-135	1.8470E+05	7.2325E-05	3.2263E+20	6.8338E+15
Cs-134	2.5188E+02	1.9468E-04	8.7490E+20	9.3194E+12
Cs-136	3.8931E+01	5.3118E-07	2.3521E+18	1.4404E+12
Cs-137	2.0202E+02	2.3226E-03	1.0209E+22	7.4748E+12
Ba-139	2.7149E+00	1.6598E-10	7.1910E+14	1.0045E+11
Ba-140	9.4281E+01	1.2878E-06	5.5396E+18	3.4884E+12
La-140	7.7876E+01	1.4011E-07	6.0267E+17	2.8814E+12
La-141	6.7665E-02	1.1965E-11	5.1101E+13	2.5036E+09
La-142	2.7861E-02	1.9463E-12	8.2541E+12	1.0309E+09
Ce-141	3.0597E+00	1.0738E-07	4.5864E+17	1.1321E+11
Ce-143	5.1755E-01	7.7935E-10	3.2821E+15	1.9149E+10
Ce-144	3.3176E+00	1.0402E-06	4.3500E+18	1.2275E+11
Pr-143	9.7955E-01	1.4547E-08	6.1260E+16	3.6243E+10

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Nd-147                 3.2234E-01  3.9845E-09  1.6323E+16  1.1927E+10
Np-239                 8.8443E+00  3.8123E-08  9.6060E+16  3.2724E+11
Pu-238                 1.2309E-02  7.1900E-07  1.8193E+18  4.5544E+08
Pu-239                 1.1714E-03  1.8845E-05  4.7485E+19  4.3341E+07
Pu-240                 2.1273E-03  9.3359E-06  2.3426E+19  7.8711E+07
Pu-241                 4.6894E-01  4.5523E-06  1.1375E+19  1.7351E+10
Am-241                 3.3607E-04  9.7916E-08  2.4467E+17  1.2434E+07
Cm-242                 7.4163E-02  2.2377E-08  5.5684E+16  2.7440E+09
Cm-244                 4.5555E-03  5.6308E-08  1.3897E+17  1.6855E+08

Environment Transport Group Inventory:

                         Total      Release
Time (h) = 720.0000     Release     Rate/s
Noble gases (atoms)    2.9535E+24  1.1394E+18
Elemental I (atoms)    1.2300E+19  4.7452E+12
Organic I (atoms)      6.0535E+19  2.3355E+13
Aerosols (kg)          2.6719E-03  1.0308E-09
Dose Effective (Ci) I-131 (Thyroid)            2.5717E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      2.7157E+03
Total I  (Ci)                                  4.3317E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1855E+24
Elemental I (atoms)    8.6750E+18  6.5262E+18
Organic I (atoms)      0.0000E+00  2.4502E+19
Aerosols (kg)          1.3506E-02  1.8732E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1854E+24
Elemental I (atoms)    3.9046E+18  4.0096E+18
Organic I (atoms)      0.0000E+00  2.4486E+19
Aerosols (kg)          2.8683E-03  7.0723E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8324E+23
Elemental I (atoms)    2.0104E+18  1.8175E+18
Organic I (atoms)      0.0000E+00  1.1809E+19
Aerosols (kg)          7.4200E-04  9.1427E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7928E+20
Elemental I (atoms)    5.6241E+15  1.5736E+14
Organic I (atoms)      1.5982E+16  1.6944E+14
Aerosols (kg)          7.4980E-07  1.8992E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4913E+20
Elemental I (atoms)    0.0000E+00  1.4295E+15
Organic I (atoms)      0.0000E+00  3.5572E+15
Aerosols (kg)          0.0000E+00  1.8696E-07
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Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	8.2757E+20	0.0000E+00
Elemental I (atoms)	1.5754E+15	0.0000E+00
Organic I (atoms)	3.7110E+15	0.0000E+00
Aerosols (kg)	2.0583E-07	0.0000E+00

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#####################################################################
                          I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	3.6628E+01	3.6336E+01
0.500	5.2943E+05	1.0490E+02	1.0107E+02
0.667	8.4096E+05	1.4142E+02	1.3500E+02
1.000	8.8113E+05	2.1978E+02	2.0618E+02
1.160	8.8779E+05	2.5389E+02	2.3608E+02
1.410	8.9559E+05	3.0264E+02	2.7757E+02
1.660	9.0135E+05	3.4621E+02	3.1335E+02
1.910	9.0583E+05	3.8508E+02	3.4414E+02
2.000	9.0723E+05	3.9801E+02	3.5414E+02
2.200	1.1305E+05	3.8900E+02	3.4149E+02
2.300	7.8894E+04	3.7964E+02	3.3051E+02
2.600	1.6297E+05	3.5574E+02	3.0257E+02
2.900	1.6484E+05	3.3600E+02	2.7979E+02
3.200	1.4699E+05	3.1726E+02	2.5883E+02
3.500	1.2694E+05	2.9888E+02	2.3895E+02
3.800	1.0916E+05	2.8086E+02	2.2006E+02
4.000	9.8982E+04	2.6911E+02	2.0806E+02
4.300	1.0849E+05	2.5280E+02	1.9175E+02
4.600	1.1191E+05	2.3825E+02	1.7760E+02
4.900	1.1308E+05	2.2508E+02	1.6513E+02
5.200	1.1343E+05	2.1307E+02	1.5408E+02
5.500	1.1348E+05	2.0209E+02	1.4425E+02
5.800	1.1341E+05	1.9205E+02	1.3549E+02
6.100	1.1330E+05	1.8286E+02	1.2770E+02
6.400	1.1318E+05	1.7444E+02	1.2075E+02
6.700	1.1305E+05	1.6673E+02	1.1455E+02
7.000	1.1292E+05	1.5968E+02	1.0903E+02
7.300	1.1279E+05	1.5321E+02	1.0411E+02
7.600	1.1266E+05	1.4729E+02	9.9717E+01
7.900	1.1253E+05	1.4186E+02	9.5799E+01
8.000	1.1249E+05	1.4016E+02	9.4590E+01
8.300	1.1236E+05	1.3533E+02	9.1224E+01
8.600	1.1223E+05	1.3090E+02	8.8220E+01
8.900	1.1210E+05	1.2684E+02	8.5537E+01
9.200	1.1197E+05	1.2312E+02	8.3141E+01
9.500	1.1184E+05	1.1971E+02	8.1000E+01
9.800	1.1171E+05	1.1658E+02	7.9086E+01
10.100	1.1158E+05	1.1371E+02	7.7373E+01
10.400	1.1146E+05	1.1108E+02	7.5841E+01
24.000	1.0575E+05	8.0029E+01	6.0798E+01
48.000	9.6725E+04	7.3049E+01	5.5770E+01
72.000	8.8437E+04	6.6786E+01	5.0993E+01
96.000	8.0841E+04	6.1049E+01	4.6613E+01
240.000	4.7083E+04	3.5556E+01	2.7148E+01
720.000	7.7528E+03	5.8547E+00	4.4702E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1396E-01	1.8469E+01	4.3678E-02
0.500	3.4945E+00	5.4899E+01	5.6698E-01
0.667	5.4436E+00	7.4927E+01	9.4735E-01
1.000	1.0335E+01	1.1921E+02	2.0075E+00
1.160	1.2897E+01	1.3937E+02	2.6302E+00
1.410	1.6890E+01	1.6927E+02	3.7071E+00
1.660	2.0701E+01	1.9725E+02	4.8727E+00
1.910	2.4230E+01	2.2339E+02	6.0930E+00
2.000	2.5423E+01	2.3236E+02	6.5404E+00
2.200	2.6714E+01	2.3112E+02	7.0990E+00
2.300	2.7126E+01	2.2795E+02	7.3491E+00
2.600	2.7596E+01	2.2009E+02	7.9861E+00
2.900	2.7333E+01	2.1374E+02	8.4893E+00
3.200	2.6640E+01	2.0739E+02	8.8863E+00
3.500	2.5683E+01	2.0075E+02	9.1938E+00
3.800	2.4567E+01	1.9384E+02	9.4250E+00
4.000	2.3771E+01	1.8914E+02	9.5421E+00
4.300	2.2548E+01	1.8243E+02	9.6704E+00
4.600	2.1345E+01	1.7626E+02	9.7524E+00
4.900	2.0200E+01	1.7050E+02	9.7977E+00
5.200	1.9129E+01	1.6506E+02	9.8137E+00
5.500	1.8142E+01	1.5992E+02	9.8065E+00
5.800	1.7238E+01	1.5505E+02	9.7810E+00
6.100	1.6417E+01	1.5044E+02	9.7411E+00
6.400	1.5673E+01	1.4607E+02	9.6901E+00
6.700	1.5002E+01	1.4193E+02	9.6308E+00
7.000	1.4397E+01	1.3800E+02	9.5652E+00
7.300	1.3854E+01	1.3429E+02	9.4953E+00
7.600	1.3367E+01	1.3076E+02	9.4224E+00
7.900	1.2931E+01	1.2742E+02	9.3478E+00
8.000	1.2795E+01	1.2635E+02	9.3228E+00
8.300	1.2408E+01	1.2324E+02	9.2417E+00
8.600	1.2063E+01	1.2029E+02	9.1619E+00
8.900	1.1755E+01	1.1749E+02	9.0835E+00
9.200	1.1481E+01	1.1484E+02	9.0069E+00
9.500	1.1237E+01	1.1232E+02	8.9323E+00
9.800	1.1018E+01	1.0994E+02	8.8600E+00
10.100	1.0822E+01	1.0768E+02	8.7899E+00
10.400	1.0647E+01	1.0553E+02	8.7221E+00
24.000	8.8468E+00	6.8408E+01	7.2962E+00
48.000	8.0362E+00	5.9693E+01	6.4770E+00
72.000	7.1598E+00	5.4271E+01	5.7306E+00
96.000	6.2886E+00	4.9577E+01	4.9939E+00
240.000	3.4954E+00	2.8872E+01	2.7467E+00
720.000	5.1463E-01	4.7541E+00	3.8963E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	1.6584E-01	5.3393E-04	1.2411E+05
0.500	2.6708E+00	5.5885E-03	2.6443E+05
0.667	4.8757E+00	8.5855E-03	3.3106E+05
1.000	1.1808E+01	6.3740E-03	4.5043E+05
1.160	1.6379E+01	5.9346E-03	4.8753E+05
1.410	2.5108E+01	5.7790E-03	5.2816E+05
1.660	3.5703E+01	6.0632E-03	5.5451E+05
1.910	4.8066E+01	6.6197E-03	5.7179E+05
2.000	5.2930E+01	6.8636E-03	5.7647E+05
2.200	5.9490E+01	6.1120E-03	4.5315E+05
2.300	6.2777E+01	5.8198E-03	3.8196E+05
2.600	7.2566E+01	5.1689E-03	2.5035E+05
2.900	8.2230E+01	4.7488E-03	1.8721E+05
3.200	9.1731E+01	4.4644E-03	1.4917E+05
3.500	1.0104E+02	4.2577E-03	1.2241E+05

3.800	1.1012E+02	4.0949E-03	1.0208E+05
4.000	1.1605E+02	4.0009E-03	9.1023E+04
4.300	1.2474E+02	3.8737E-03	8.1300E+04
4.600	1.3322E+02	3.7592E-03	7.7664E+04
4.900	1.4148E+02	3.6551E-03	7.6270E+04
5.200	1.4955E+02	3.5595E-03	7.5701E+04
5.500	1.5744E+02	3.4716E-03	7.5437E+04
5.800	1.6516E+02	3.3907E-03	7.5285E+04
6.100	1.7273E+02	3.3162E-03	7.5174E+04
6.400	1.8017E+02	3.2477E-03	7.5078E+04
6.700	1.8747E+02	3.1849E-03	7.4988E+04
7.000	1.9466E+02	3.1273E-03	7.4901E+04
7.300	2.0174E+02	3.0746E-03	7.4814E+04
7.600	2.0872E+02	3.0264E-03	7.4727E+04
7.900	2.1561E+02	2.9824E-03	7.4641E+04
8.000	2.1789E+02	2.9685E-03	7.4612E+04
8.300	2.2459E+02	2.2844E-03	7.4526E+04
8.600	2.3122E+02	1.8597E-03	7.4440E+04
8.900	2.3778E+02	1.5946E-03	7.4354E+04
9.200	2.4428E+02	1.4278E-03	7.4268E+04
9.500	2.5072E+02	1.3217E-03	7.4182E+04
9.800	2.5711E+02	1.2531E-03	7.4096E+04
10.100	2.6346E+02	1.2079E-03	7.4010E+04
10.400	2.6976E+02	1.1773E-03	7.3925E+04
24.000	5.3662E+02	1.0205E-03	7.0139E+04
48.000	7.4594E+02	2.9643E-04	6.4149E+04
72.000	9.2250E+02	2.4975E-04	5.8653E+04
96.000	1.0710E+03	2.1005E-04	5.3615E+04
240.000	1.6928E+03	9.5403E-05	3.1226E+04
720.000	2.3790E+03	1.4896E-05	5.1417E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		CR Air Intake		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2376E-02	1.1130E-03	1.1589E-01	5.7646E-03	2.0833E-02	8.4743E-04
0.500	3.5926E-01	1.8984E-02	1.8607E+00	9.8322E-02	8.4249E-01	3.4091E-02
0.667	6.5561E-01	3.6869E-02	3.3956E+00	1.9095E-01	1.8282E+00	7.4269E-02
1.000	1.5927E+00	1.1147E-01	8.2489E+00	5.7735E-01	3.8729E+00	1.6036E-01
1.160	2.2111E+00	1.7155E-01	1.1452E+01	8.8849E-01	4.6932E+00	1.9683E-01
1.410	3.3917E+00	3.0343E-01	1.7566E+01	1.5715E+00	5.9093E+00	2.5489E-01
1.660	4.8228E+00	4.8589E-01	2.4978E+01	2.5166E+00	7.1435E+00	3.1960E-01
1.910	6.4896E+00	7.2164E-01	3.3612E+01	3.7376E+00	8.4686E+00	3.9517E-01
2.000	7.1444E+00	8.1977E-01	3.7003E+01	4.2458E+00	8.9769E+00	4.2557E-01
2.200	8.0268E+00	9.5750E-01	4.0729E+01	4.8275E+00	1.0061E+01	4.9195E-01
2.300	8.4680E+00	1.0288E+00	4.2592E+01	5.1285E+00	1.0560E+01	5.2301E-01
2.600	9.7784E+00	1.2497E+00	4.8127E+01	6.0614E+00	1.1932E+01	6.1024E-01
2.900	1.1067E+01	1.4784E+00	5.3568E+01	7.0273E+00	1.3168E+01	6.9153E-01
3.200	1.2328E+01	1.7117E+00	5.8896E+01	8.0124E+00	1.4313E+01	7.6917E-01
3.500	1.3559E+01	1.9467E+00	6.4093E+01	9.0051E+00	1.5395E+01	8.4432E-01
3.800	1.4756E+01	2.1814E+00	6.9147E+01	9.9961E+00	1.6427E+01	9.1747E-01
4.000	1.5534E+01	2.3367E+00	7.2434E+01	1.0652E+01	1.7093E+01	9.6523E-01
4.300	1.6672E+01	2.5670E+00	7.7239E+01	1.1625E+01	1.8060E+01	1.0353E+00
4.600	1.7776E+01	2.7932E+00	8.1903E+01	1.2580E+01	1.8994E+01	1.1036E+00
4.900	1.8849E+01	3.0147E+00	8.6434E+01	1.3515E+01	1.9899E+01	1.1701E+00
5.200	1.9893E+01	3.2308E+00	9.0842E+01	1.4428E+01	2.0775E+01	1.2346E+00
5.500	2.0910E+01	3.4412E+00	9.5136E+01	1.5316E+01	2.1626E+01	1.2973E+00
5.800	2.1902E+01	3.6456E+00	9.9325E+01	1.6180E+01	2.2454E+01	1.3581E+00
6.100	2.2871E+01	3.8441E+00	1.0342E+02	1.7018E+01	2.3260E+01	1.4172E+00
6.400	2.3818E+01	4.0365E+00	1.0742E+02	1.7830E+01	2.4046E+01	1.4744E+00
6.700	2.4746E+01	4.2229E+00	1.1134E+02	1.8617E+01	2.4814E+01	1.5299E+00
7.000	2.5657E+01	4.4033E+00	1.1518E+02	1.9379E+01	2.5565E+01	1.5838E+00

7.300	2.6551E+01	4.5779E+00	1.1896E+02	2.0117E+01	2.6300E+01	1.6361E+00
7.600	2.7429E+01	4.7468E+00	1.2267E+02	2.0830E+01	2.7021E+01	1.6869E+00
7.900	2.8294E+01	4.9103E+00	1.2632E+02	2.1520E+01	2.7729E+01	1.7362E+00
8.000	2.8580E+01	4.9636E+00	1.2753E+02	2.1746E+01	2.7962E+01	1.7524E+00
8.300	2.9417E+01	5.1197E+00	1.2902E+02	2.2025E+01	2.8573E+01	1.7943E+00
8.600	3.0243E+01	5.2708E+00	1.3050E+02	2.2295E+01	2.9054E+01	1.8269E+00
8.900	3.1058E+01	5.4170E+00	1.3196E+02	2.2557E+01	2.9455E+01	1.8538E+00
9.200	3.1863E+01	5.5587E+00	1.3340E+02	2.2810E+01	2.9805E+01	1.8771E+00
9.500	3.2660E+01	5.6959E+00	1.3482E+02	2.3056E+01	3.0123E+01	1.8980E+00
9.800	3.3448E+01	5.8289E+00	1.3623E+02	2.3294E+01	3.0421E+01	1.9173E+00
10.100	3.4228E+01	5.9580E+00	1.3763E+02	2.3524E+01	3.0704E+01	1.9355E+00
10.400	3.5001E+01	6.0832E+00	1.3901E+02	2.3748E+01	3.0979E+01	1.9530E+00
24.000	6.6380E+01	9.7667E+00	1.9514E+02	3.0338E+01	4.1590E+01	2.5237E+00
48.000	8.9040E+01	1.1630E+01	2.1121E+02	3.1659E+01	4.4825E+01	2.6759E+00
72.000	1.0707E+02	1.3047E+01	2.2400E+02	3.2664E+01	4.7232E+01	2.7902E+00
96.000	1.2179E+02	1.4245E+01	2.3444E+02	3.3513E+01	4.9198E+01	2.8875E+00
240.000	1.8197E+02	1.9246E+01	2.5784E+02	3.5458E+01	5.3609E+01	3.1242E+00
720.000	2.4832E+02	2.5811E+01	2.8364E+02	3.8011E+01	5.8464E+01	3.5072E+00

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	1.1321E+00	9.4788E+00	1.5828E+00

Attachment 12.5a – RADTRAD Output File "DRE3MS395_Fram_Spray.o0" (Framatome Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:50:37
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS395_Fram_spray.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DQLOCA_ATRIUM_DEF.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
Drywell to Intact Control Volume 2
```

```
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
```

```
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
```

```
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
```

```
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
```

```
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
```

```
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
```

```
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Fram\DRE3MS395_Fram_spray.o0
  1
  1
```

```
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:50:37
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5
```

```
Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:50:37
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.371E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.575E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.021E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.653E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.858E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.034E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.483E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.875E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        6.363E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)     (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.542E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   6.764E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.356E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   1.883E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   5.106E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.593E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   4.078E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.289E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.481E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   4.211E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.349E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.514E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   2.666E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.774E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.642E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.774E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.006E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.443E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.024E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.880E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.831E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.377E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.653E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.361E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   4.045E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.222E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.664E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   5.404E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.813E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.666E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.879E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.504E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.100E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.238E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data
```

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
2.0000E+00	1.0900E-05
8.0000E+00	7.0200E-06
2.4000E+01	2.7000E-06
9.6000E+01	6.8600E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr) X/Q (s * m^-3)

```
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-01
      1.0000E+00       1.0000E-02
      2.0000E+00       5.0000E-01
      8.0000E+00       1.0000E+00
      2.4000E+01       2.0000E+00
      9.6000E+01       5.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:50:37
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.5697E+22  0.0000E+00
Elemental I (atoms)    6.3392E+20  0.0000E+00
Organic I (atoms)      1.9606E+19  0.0000E+00
Aerosols (kg)          6.7157E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4040E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7955E-04
Total I (Ci)                                   2.3268E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1133E+12
Elemental I (atoms)    0.0000E+00  1.4010E+10
Organic I (atoms)      0.0000E+00  4.3329E+08
Aerosols (kg)          0.0000E+00  1.4831E-11

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6916E+01
Elemental I (atoms)    0.0000E+00  3.1102E-01
Organic I (atoms)      0.0000E+00  9.6190E-03
Aerosols (kg)          0.0000E+00  3.2924E-22

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2321E-04	2.3642E-02	1.1760E-03
Accumulated dose (rem)	2.2321E-04	2.3642E-02	1.1760E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3389E-05	2.4772E-03	1.2322E-04
Accumulated dose (rem)	2.3389E-05	2.4772E-03	1.2322E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.0240E-06	2.1929E-02	8.9203E-04
Accumulated dose (rem)	8.0240E-06	2.1929E-02	8.9203E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.2836E+04	5.8205E-02	4.1237E+23	3.4417E+17
Kr-85m	3.3138E+05	4.0267E-05	2.8529E+20	5.0438E+18
Kr-87	6.2251E+05	2.1977E-05	1.5212E+20	9.7154E+18
Kr-88	9.0902E+05	7.2494E-05	4.9610E+20	1.3915E+19
Rb-86	2.5663E+03	3.1540E-05	2.2086E+20	3.8682E+16
I-131	1.3394E+06	1.0804E-02	4.9666E+22	2.0191E+19
I-132	1.8846E+06	1.8258E-04	8.3299E+20	2.8834E+19
I-133	2.7516E+06	2.4290E-03	1.0998E+22	4.1559E+19
I-134	2.6883E+06	1.0077E-04	4.5288E+20	4.2628E+19
I-135	2.5880E+06	7.3693E-04	3.2873E+21	3.9266E+19
Xe-133	2.6503E+06	1.4159E-02	6.4111E+22	3.9937E+19

```
Xe-135                  9.1520E+05  3.5838E-04  1.5987E+21  1.3616E+19
Cs-134                  3.3837E+05  2.6153E-01  1.1753E+24  5.0998E+18
Cs-136                  9.2310E+04  1.2595E-03  5.5771E+21  1.3915E+18
Cs-137                  2.6836E+05  3.0853E+00  1.3562E+25  4.0446E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.7902E+23  0.0000E+00
Elemental I (atoms)    3.1640E+21  0.0000E+00
Organic I (atoms)      9.7857E+19  0.0000E+00
Aerosols (kg)          3.3616E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.0118E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.9366E-04
Total I (Ci)                                   1.1252E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4406E+19
Elemental I (atoms)    0.0000E+00  9.5341E+16
Organic I (atoms)      0.0000E+00  2.9487E+15
Aerosols (kg)          0.0000E+00  1.0109E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4406E+19
Elemental I (atoms)    0.0000E+00  9.5341E+16
Organic I (atoms)      0.0000E+00  2.9487E+15
Aerosols (kg)          0.0000E+00  1.0109E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.1907E+18
Elemental I (atoms)    0.0000E+00  4.7590E+16
Organic I (atoms)      0.0000E+00  1.4719E+15
Aerosols (kg)          0.0000E+00  5.0462E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2957E+13
Elemental I (atoms)    0.0000E+00  3.5051E+11
Organic I (atoms)      0.0000E+00  1.0840E+10
Aerosols (kg)          0.0000E+00  3.7163E-10

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8853E+03
Elemental I (atoms)    0.0000E+00  3.8942E+01
Organic I (atoms)      0.0000E+00  1.2044E+00
Aerosols (kg)          0.0000E+00  4.1301E-20

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.9332E-02  4.9273E-08  3.4910E+17  7.1527E+08
Kr-85m                 2.8103E-01  3.4149E-11  2.4194E+14  1.0398E+10
Kr-87                  5.3035E-01  1.8723E-11  1.2960E+14  1.9623E+10
Kr-88                  7.7171E-01  6.1544E-11  4.2116E+14  2.8553E+10
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Rb-86	2.4789E-04	3.0466E-12	2.1334E+13	9.1721E+06
I-131	1.7523E-01	1.4134E-09	6.4975E+15	6.4834E+09
I-132	2.4525E-01	2.3760E-11	1.0840E+14	9.0744E+09
I-133	3.6011E-01	3.1789E-10	1.4394E+15	1.3324E+10
I-134	3.5503E-01	1.3309E-11	5.9811E+13	1.3136E+10
I-135	3.3898E-01	9.6525E-11	4.3058E+14	1.2542E+10
Xe-133	2.2429E+00	1.1982E-08	5.4256E+16	8.2987E+10
Xe-135	7.6555E-01	2.9978E-10	1.3373E+15	2.8325E+10
Cs-134	3.2685E-02	2.5262E-08	1.1353E+17	1.2093E+09
Cs-136	8.9169E-03	1.2166E-10	5.3873E+14	3.2992E+08
Cs-137	2.5922E-02	2.9802E-07	1.3100E+18	9.5911E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	4.0548E+17	6.7567E+14
Elemental I (atoms)	2.4655E+15	4.1083E+12
Organic I (atoms)	8.2852E+13	1.3806E+11
Aerosols (kg)	3.2471E-07	5.4108E-10

Dose Effective (Ci) I-131 (Thyroid)	2.4680E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.1458E-01
Total I (Ci)	1.4746E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6610E+17
Elemental I (atoms)	1.6568E+14	2.2566E+15
Organic I (atoms)	0.0000E+00	7.4916E+13
Aerosols (kg)	2.2563E-06	3.1293E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5639E+16
Elemental I (atoms)	3.3828E+13	1.9214E+14
Organic I (atoms)	0.0000E+00	7.2921E+12
Aerosols (kg)	4.6649E-08	1.1502E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3260E+15
Elemental I (atoms)	4.1176E+12	2.3388E+13
Organic I (atoms)	0.0000E+00	8.8513E+11
Aerosols (kg)	2.9705E-09	3.6601E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4735E+14
Elemental I (atoms)	0.0000E+00	3.3329E+12
Organic I (atoms)	0.0000E+00	1.1200E+11
Aerosols (kg)	0.0000E+00	4.3829E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.9519E+14
Elemental I (atoms)	0.0000E+00	6.0599E+12
Organic I (atoms)	0.0000E+00	2.0364E+11

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Aerosols (kg)          0.0000E+00  7.9689E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.3739E+14  0.0000E+00
Elemental I (atoms)    1.4479E+12  0.0000E+00
Organic I (atoms)      4.8572E+10  0.0000E+00
Aerosols (kg)          1.9192E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.9641E-03  3.6525E-01  1.9537E-02
Accumulated dose (rem)  5.1873E-03  3.8889E-01  2.0713E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.2014E-04  3.8271E-02  2.0471E-03
Accumulated dose (rem)  5.4353E-04  4.0748E-02  2.1703E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1567E-04  8.8934E-01  3.5987E-02
Accumulated dose (rem)  4.2369E-04  9.1127E-01  3.6879E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  6.8483E+04  1.7455E-01  1.2367E+24  2.6550E+18
Kr-85m                 9.4383E+05  1.1469E-04  8.1255E+20  3.7608E+19
Kr-87                  1.5567E+06  5.4958E-05  3.8042E+20  6.6575E+19
Kr-88                  2.5131E+06  2.0042E-04  1.3715E+21  1.0175E+20
Rb-86                  1.0362E+03  1.2735E-05  8.9173E+19  9.1914E+16
I-131                  5.4573E+05  4.4020E-03  2.0236E+22  4.8130E+19
I-132                  7.6381E+05  7.3997E-05  3.3759E+20  6.8414E+19
I-133                  1.1099E+06  9.7976E-04  4.4363E+21  9.8692E+19
I-134                  8.4243E+05  3.1579E-05  1.4192E+20  9.2551E+19
I-135                  1.0193E+06  2.9024E-04  1.2947E+21  9.2425E+19
Xe-133                 7.9393E+06  4.2415E-02  1.9205E+23  3.0796E+20
Xe-135                 2.7406E+06  1.0732E-03  4.7873E+21  1.0616E+20
Cs-134                 1.3669E+05  1.0565E-01  4.7479E+23  1.2120E+19
Cs-136                 3.7263E+04  5.0843E-04  2.2513E+21  3.3060E+18
Cs-137                 1.0841E+05  1.2463E+00  5.4786E+24  9.6124E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.4361E+24  0.0000E+00
Elemental I (atoms)    1.2704E+21  8.1376E+21
Organic I (atoms)      2.9149E+20  0.0000E+00
Aerosols (kg)          1.3579E+00  8.6605E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8452E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6025E-04
Total I (Ci)                                   4.2811E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3436E+20
Elemental I (atoms)    0.0000E+00  2.9921E+17
Organic I (atoms)      0.0000E+00  2.7386E+16
Aerosols (kg)          0.0000E+00  3.1806E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3436E+20
Elemental I (atoms)	0.0000E+00	2.9921E+17
Organic I (atoms)	0.0000E+00	2.7386E+16
Aerosols (kg)	0.0000E+00	3.1806E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7065E+19
Elemental I (atoms)	0.0000E+00	1.4935E+17
Organic I (atoms)	0.0000E+00	1.3670E+16
Aerosols (kg)	0.0000E+00	1.5876E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7631E+14
Elemental I (atoms)	0.0000E+00	1.0700E+12
Organic I (atoms)	0.0000E+00	9.7090E+10
Aerosols (kg)	0.0000E+00	1.1374E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5878E+05
Elemental I (atoms)	0.0000E+00	5.4739E+02
Organic I (atoms)	0.0000E+00	3.2332E+01
Aerosols (kg)	0.0000E+00	5.8313E-19

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	6.5090E-01	1.6590E-06	1.1754E+19	2.4083E+10
Kr-85m	9.0775E+00	1.1030E-09	7.8149E+15	3.3587E+11
Kr-87	1.5441E+01	5.4511E-10	3.7733E+15	5.7130E+11
Kr-88	2.4339E+01	1.9410E-09	1.3283E+16	9.0052E+11
Rb-86	3.9158E-03	4.8125E-11	3.3700E+14	1.4489E+08
I-131	2.8912E+00	2.3321E-08	1.0721E+17	1.0697E+11
I-132	3.8398E+00	3.7200E-10	1.6972E+15	1.4207E+11
I-133	5.8998E+00	5.2081E-09	2.3582E+16	2.1829E+11
I-134	4.8773E+00	1.8283E-10	8.2167E+14	1.8046E+11
I-135	5.4605E+00	1.5549E-09	6.9361E+15	2.0204E+11
Xe-133	7.5471E+01	4.0320E-07	1.8256E+18	2.7924E+12
Xe-135	2.5982E+01	1.0174E-08	4.5385E+16	9.6132E+11
Cs-134	5.1648E-01	3.9919E-07	1.7940E+18	1.9110E+10
Cs-136	1.4083E-01	1.9216E-09	8.5087E+15	5.2108E+09
Cs-137	4.0962E-01	4.7093E-06	2.0701E+19	1.5156E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.3650E+19	7.5833E+15
Elemental I (atoms)	4.3326E+16	2.4070E+13
Organic I (atoms)	2.7738E+15	1.5410E+12
Aerosols (kg)	5.1310E-06	2.8506E-09

Dose Effective (Ci) I-131 (Thyroid)	4.0590E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	5.1441E+00
Total I (Ci)	2.2969E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0439E+19
Elemental I (atoms)	2.3946E+15	3.2614E+16
Organic I (atoms)	0.0000E+00	2.1258E+15
Aerosols (kg)	3.2750E-05	4.5422E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8398E+18
Elemental I (atoms)	1.6818E+15	9.5528E+15
Organic I (atoms)	0.0000E+00	5.7802E+14
Aerosols (kg)	2.3310E-06	5.7476E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7502E+17
Elemental I (atoms)	2.2719E+14	1.2904E+15
Organic I (atoms)	0.0000E+00	7.6330E+13
Aerosols (kg)	1.6474E-07	2.0298E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8427E+16
Elemental I (atoms)	0.0000E+00	5.8602E+13
Organic I (atoms)	0.0000E+00	3.7520E+12
Aerosols (kg)	0.0000E+00	6.9257E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3503E+16
Elemental I (atoms)	0.0000E+00	1.0655E+14
Organic I (atoms)	0.0000E+00	6.8218E+12
Aerosols (kg)	0.0000E+00	1.2592E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	1.9465E+16	0.0000E+00
Elemental I (atoms)	7.3097E+13	0.0000E+00
Organic I (atoms)	3.9618E+12	0.0000E+00
Aerosols (kg)	8.8650E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.6988E-03	3.1793E-01	1.9654E-02
Accumulated dose (rem)	1.1886E-02	7.0682E-01	4.0366E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0191E-04	3.3313E-02	2.0593E-03
Accumulated dose (rem)	1.2454E-03	7.4061E-02	4.2296E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8112E-04	1.0636E+00	4.3349E-02
Accumulated dose (rem)	1.1048E-03	1.9748E+00	8.0228E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.7021E+01	1.4787E-06	1.5354E+19	9.4786E+14
Co-60	5.6293E+01	4.9800E-05	4.9983E+20	1.1347E+15
Kr-85	2.1310E+05	5.4316E-01	3.8482E+24	6.6161E+18
Kr-85m	2.8621E+06	3.4779E-04	2.4640E+21	9.1447E+19
Kr-87	4.4233E+06	1.5616E-04	1.0809E+21	1.5234E+20
Kr-88	7.5083E+06	5.9878E-04	4.0977E+21	2.4397E+20
Rb-86	1.3402E+03	1.6471E-05	1.1534E+20	1.2105E+17
Sr-89	6.3779E+04	2.1953E-03	1.4855E+22	1.2857E+18
Sr-90	1.0036E+04	7.3572E-02	4.9229E+23	2.0230E+17
Sr-91	7.7096E+04	2.1268E-05	1.4075E+20	1.5632E+18
Sr-92	7.2240E+04	5.7473E-06	3.7621E+19	1.4864E+18
Y-90	1.1412E+02	2.0976E-07	1.4035E+18	2.1171E+15
Y-91	8.2547E+02	3.3660E-05	2.2275E+20	1.6613E+16
Y-92	2.2412E+03	2.3292E-07	1.5246E+18	2.1130E+16
Y-93	6.2666E+02	1.8783E-07	1.2163E+18	1.2701E+16
Zr-95	1.1746E+03	5.4674E-05	3.4658E+20	2.3677E+16
Zr-97	1.1115E+03	5.8141E-07	3.6096E+18	2.2478E+16
Nb-95	1.1749E+03	3.0046E-05	1.9047E+20	2.3682E+16
Mo-99	1.5293E+04	3.1886E-05	1.9396E+20	3.0852E+17
Tc-99m	1.3659E+04	2.5977E-06	1.5802E+19	2.7403E+17
Ru-103	1.3252E+04	4.1061E-04	2.4007E+21	2.6714E+17
Ru-105	8.3819E+03	1.2469E-06	7.1516E+18	1.7108E+17
Ru-106	5.7825E+03	1.7284E-03	9.8195E+21	1.1656E+17
Rh-105	8.7114E+03	1.0321E-05	5.9194E+19	1.7546E+17
Sb-127	1.4552E+04	5.4492E-05	2.5839E+20	2.9351E+17
Sb-129	4.7837E+04	8.5068E-06	3.9712E+19	9.7675E+17
Te-127	1.4519E+04	5.5016E-06	2.6088E+19	2.9177E+17
Te-127m	2.4886E+03	2.6383E-04	1.2510E+21	5.0162E+16
Te-129	4.9260E+04	2.3522E-06	1.0981E+19	9.7448E+17
Te-129m	1.0240E+04	3.3992E-04	1.5869E+21	2.0641E+17
Te-131m	3.2740E+04	4.1059E-05	1.8875E+20	6.6118E+17
Te-132	2.3319E+05	7.6811E-04	3.5043E+21	4.7039E+18
I-131	8.7069E+05	7.0231E-03	3.2285E+22	6.6791E+19
I-132	1.2343E+06	1.1958E-04	5.4556E+20	9.5028E+19
I-133	1.7618E+06	1.5552E-03	7.0420E+21	1.3655E+20
I-134	1.1786E+06	4.4182E-05	1.9856E+20	1.1952E+20
I-135	1.5988E+06	4.5526E-04	2.0308E+21	1.2698E+20
Xe-133	2.4706E+07	1.3199E-01	5.9763E+23	7.6730E+20
Xe-135	8.6828E+06	3.4001E-03	1.5167E+22	2.6753E+20
Cs-134	1.7684E+05	1.3668E-01	6.1425E+23	1.5965E+19
Cs-136	4.8191E+04	6.5753E-04	2.9116E+21	4.3539E+18
Cs-137	1.4025E+05	1.6124E+00	7.0878E+24	1.2661E+19
Ba-139	8.5189E+04	5.2081E-06	2.2564E+19	1.7882E+18
Ba-140	1.1976E+05	1.6358E-03	7.0366E+21	2.4145E+18
La-140	1.4796E+03	2.6620E-06	1.1451E+19	2.6351E+16
La-141	9.7204E+02	1.7188E-07	7.3410E+17	1.9873E+16
La-142	7.9201E+02	5.5327E-08	2.3464E+17	1.6553E+16
Ce-141	2.7535E+03	9.6635E-05	4.1273E+20	5.5503E+16
Ce-143	2.5344E+03	3.8163E-06	1.6072E+19	5.1172E+16
Ce-144	2.3660E+03	7.4181E-04	3.1023E+21	4.7693E+16
Pr-143	9.9576E+02	1.4787E-05	6.2274E+19	2.0065E+16
Nd-147	4.4226E+02	5.4668E-06	2.2396E+19	8.9167E+15
Np-239	3.2168E+04	1.3866E-04	3.4939E+20	6.4906E+17
Pu-238	8.4853E+00	4.9564E-04	1.2541E+21	1.7104E+14
Pu-239	8.0171E-01	1.2898E-02	3.2500E+22	1.6160E+13
Pu-240	1.4687E+00	6.4453E-03	1.6173E+22	2.9604E+13
Pu-241	3.2432E+02	3.1484E-03	7.8672E+21	6.5375E+15
Am-241	2.1297E-01	6.2051E-05	1.5505E+20	4.2928E+12
Cm-242	5.4170E+01	1.6344E-05	4.0673E+19	1.0919E+15

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Cm-244                 3.1495E+00  3.8929E-05  9.6080E+19  6.3485E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    4.4686E+24  0.0000E+00
Elemental I (atoms)    2.0231E+21  1.2654E+22
Organic I (atoms)      4.5211E+20  0.0000E+00
Aerosols (kg)          1.8638E+00  1.2952E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.5305E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.7218E-04
Total I (Ci)                                   6.6443E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1932E+20
Elemental I (atoms)    0.0000E+00  4.1236E+17
Organic I (atoms)      0.0000E+00  5.0704E+16
Aerosols (kg)          0.0000E+00  4.2557E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1932E+20
Elemental I (atoms)    0.0000E+00  4.1236E+17
Organic I (atoms)      0.0000E+00  5.0704E+16
Aerosols (kg)          0.0000E+00  4.2557E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5939E+20
Elemental I (atoms)    0.0000E+00  2.0584E+17
Organic I (atoms)      0.0000E+00  2.5309E+16
Aerosols (kg)          0.0000E+00  2.1243E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1291E+15
Elemental I (atoms)    0.0000E+00  1.4694E+12
Organic I (atoms)      0.0000E+00  1.7939E+11
Aerosols (kg)          0.0000E+00  1.5168E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0773E+05
Elemental I (atoms)    0.0000E+00  9.6466E+02
Organic I (atoms)      0.0000E+00  7.7240E+01
Aerosols (kg)          0.0000E+00  1.0240E-18

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  8.2028E-06  2.5797E-13  2.6785E+12  3.0350E+05
Co-60                  9.8201E-06  8.6874E-12  8.7195E+13  3.6334E+05
Kr-85                  1.7319E+00  4.4143E-06  3.1275E+19  6.4079E+10
Kr-85m                 2.3670E+01  2.8763E-09  2.0378E+16  8.7580E+11
Kr-87                  3.8287E+01  1.3517E-09  9.3564E+15  1.4166E+12
Kr-88                  6.2733E+01  5.0029E-09  3.4237E+16  2.3211E+12
Rb-86                  6.9299E-03  8.5168E-11  5.9639E+14  2.5641E+08
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Sr-89	1.1126E-02	3.8298E-10	2.5914E+15	4.1167E+08
Sr-90	1.7507E-03	1.2835E-08	8.5879E+16	6.4777E+07
Sr-91	1.3466E-02	3.7148E-12	2.4584E+13	4.9825E+08
Sr-92	1.2658E-02	1.0071E-12	6.5920E+12	4.6835E+08
Y-90	2.0718E-05	3.8081E-14	2.5481E+11	7.6658E+05
Y-91	1.4412E-04	5.8769E-12	3.8892E+13	5.3326E+06
Y-92	4.9952E-04	5.1913E-14	3.3981E+11	1.8482E+07
Y-93	1.0945E-04	3.2806E-14	2.1243E+11	4.0496E+06
Zr-95	2.0490E-04	9.5378E-12	6.0461E+13	7.5813E+06
Zr-97	1.9403E-04	1.0150E-13	6.3014E+11	7.1791E+06
Nb-95	2.0496E-04	5.2415E-12	3.3226E+13	7.5835E+06
Mo-99	2.6683E-03	5.5634E-12	3.3842E+13	9.8727E+07
Tc-99m	2.3829E-03	4.5318E-13	2.7567E+12	8.8168E+07
Ru-103	2.3118E-03	7.1630E-11	4.1880E+14	8.5536E+07
Ru-105	1.4662E-03	2.1811E-13	1.2510E+12	5.4248E+07
Ru-106	1.0087E-03	3.0152E-10	1.7130E+15	3.7324E+07
Rh-105	1.5197E-03	1.8005E-12	1.0326E+13	5.6229E+07
Sb-127	2.5389E-03	9.5072E-12	4.5082E+13	9.3940E+07
Sb-129	8.3682E-03	1.4881E-12	6.9470E+12	3.0962E+08
Te-127	2.5329E-03	9.5975E-13	4.5510E+12	9.3717E+07
Te-127m	4.3412E-04	4.6024E-11	2.1824E+14	1.6063E+07
Te-129	8.6019E-03	4.1074E-13	1.9175E+12	3.1827E+08
Te-129m	1.7864E-03	5.9299E-11	2.7683E+14	6.6097E+07
Te-131m	5.7138E-03	7.1654E-12	3.2940E+13	2.1141E+08
Te-132	4.0686E-02	1.3401E-10	6.1141E+14	1.5054E+09
I-131	5.2568E+00	4.2403E-08	1.9493E+17	1.9450E+11
I-132	6.8557E+00	6.6417E-10	3.0301E+15	2.5366E+11
I-133	1.0693E+01	9.4394E-09	4.2741E+16	3.9564E+11
I-134	8.1770E+00	3.0652E-10	1.3775E+15	3.0255E+11
I-135	9.8219E+00	2.7968E-09	1.2476E+16	3.6341E+11
Xe-133	2.0073E+02	1.0724E-06	4.8556E+18	7.4269E+12
Xe-135	6.9134E+01	2.7072E-08	1.2076E+17	2.5580E+12
Cs-134	9.1417E-01	7.0656E-07	3.1754E+18	3.3824E+10
Cs-136	2.4922E-01	3.4004E-09	1.5057E+16	9.2210E+09
Cs-137	7.2503E-01	8.3354E-06	3.6640E+19	2.6826E+10
Ba-139	1.4992E-02	9.1655E-13	3.9709E+12	5.5471E+08
Ba-140	2.0892E-02	2.8538E-10	1.2276E+15	7.7302E+08
La-140	2.7348E-04	4.9202E-13	2.1165E+12	1.0119E+07
La-141	1.7009E-04	3.0076E-14	1.2845E+11	6.2933E+06
La-142	1.3925E-04	9.7276E-15	4.1254E+10	5.1523E+06
Ce-141	4.8032E-04	1.6857E-11	7.1998E+13	1.7772E+07
Ce-143	4.4227E-04	6.6599E-13	2.8047E+12	1.6364E+07
Ce-144	4.1274E-04	1.2941E-10	5.4119E+14	1.5272E+07
Pr-143	1.7373E-04	2.5800E-12	1.0865E+13	6.4281E+06
Nd-147	7.7155E-05	9.5372E-13	3.9071E+12	2.8547E+06
Np-239	5.6128E-03	2.4194E-11	6.0963E+13	2.0768E+08
Pu-238	1.4802E-06	8.6464E-11	2.1878E+14	5.4769E+04
Pu-239	1.3986E-07	2.2501E-09	5.6695E+15	5.1747E+03
Pu-240	2.5621E-07	1.1244E-09	2.8213E+15	9.4796E+03
Pu-241	5.6577E-05	5.4922E-10	1.3724E+15	2.0934E+06
Am-241	3.7152E-08	1.0825E-11	2.7049E+13	1.3746E+03
Cm-242	9.4499E-06	2.8513E-12	7.0953E+12	3.4965E+05
Cm-244	5.4941E-07	6.7911E-12	1.6761E+13	2.0328E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.6315E+19	1.5130E+16
Elemental I (atoms)	8.0017E+16	3.3339E+13
Organic I (atoms)	6.9312E+15	2.8879E+12
Aerosols (kg)	9.1005E-06	3.7917E-09

Dose Effective (Ci) I-131 (Thyroid)	7.3701E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.3188E+00
Total I (Ci)	4.0804E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6561E+19
Elemental I (atoms)    4.1252E+15  5.6185E+16
Organic I (atoms)      0.0000E+00  5.0090E+15
Aerosols (kg)          5.6183E-05  7.7922E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.5946E+18
Elemental I (atoms)    3.6994E+15  2.1013E+16
Organic I (atoms)      0.0000E+00  1.7026E+15
Aerosols (kg)          5.1308E-06  1.2651E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1764E+18
Elemental I (atoms)    5.2671E+14  2.9917E+15
Organic I (atoms)      0.0000E+00  2.3365E+14
Aerosols (kg)          3.8231E-07  4.7107E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9023E+16
Elemental I (atoms)    0.0000E+00  1.0822E+14
Organic I (atoms)      0.0000E+00  9.3735E+12
Aerosols (kg)          0.0000E+00  1.2284E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.9132E+16
Elemental I (atoms)    0.0000E+00  1.9676E+14
Organic I (atoms)      0.0000E+00  1.7043E+13
Aerosols (kg)          0.0000E+00  2.2334E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    5.9533E+16  0.0000E+00
Elemental I (atoms)    1.6205E+14  0.0000E+00
Organic I (atoms)      1.1804E+13  0.0000E+00
Aerosols (kg)          1.8922E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9059E-02  9.9680E-01  8.3277E-02
Accumulated dose (rem)  5.0945E-02  1.7036E+00  1.2364E-01

Low Population Zone Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.0926E-03  1.0445E-01  8.7258E-03
Accumulated dose (rem)  5.3381E-03  1.7851E-01  1.2955E-02

Control Room Doses:
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Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7323E-03	2.1968E+00	9.2564E-02
Accumulated dose (rem)	3.8371E-03	4.1717E+00	1.7279E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 1.0000	Ci	kg	Atoms	Decay
Co-58	5.1188E+01	1.6098E-06	1.6714E+19	3.2008E+15
Co-60	6.1289E+01	5.4219E-05	5.4419E+20	3.8321E+15
Kr-85	5.0218E+05	1.2800E+00	9.0685E+24	2.4291E+19
Kr-85m	6.4058E+06	7.7839E-04	5.5148E+21	3.2212E+20
Kr-87	8.6921E+06	3.0686E-04	2.1241E+21	4.8424E+20
Kr-88	1.6311E+07	1.3008E-03	8.9019E+21	8.3920E+20
Rb-86	1.3665E+03	1.6794E-05	1.1760E+20	1.8161E+17
Sr-89	6.9427E+04	2.3897E-03	1.6170E+22	4.3415E+18
Sr-90	1.0927E+04	8.0102E-02	5.3599E+23	6.8318E+17
Sr-91	8.1922E+04	2.2599E-05	1.4956E+20	5.2126E+18
Sr-92	7.2225E+04	5.7461E-06	3.7613E+19	4.8036E+18
Y-90	1.2779E+02	2.3488E-07	1.5716E+18	7.2218E+15
Y-91	8.9913E+02	3.6663E-05	2.4263E+20	5.6111E+16
Y-92	2.7414E+03	2.8490E-07	1.8649E+18	7.9806E+16
Y-93	6.6686E+02	1.9988E-07	1.2943E+18	4.2387E+16
Zr-95	1.2786E+03	5.9518E-05	3.7729E+20	7.9954E+16
Zr-97	1.1937E+03	6.2442E-07	3.8766E+18	7.5372E+16
Nb-95	1.2792E+03	3.2713E-05	2.0737E+20	7.9978E+16
Mo-99	1.6592E+04	3.4595E-05	2.1044E+20	1.0400E+18
Tc-99m	1.4866E+04	2.8271E-06	1.7197E+19	9.2494E+17
Ru-103	1.4425E+04	4.4694E-04	2.6132E+21	9.0206E+17
Ru-105	8.6631E+03	1.2888E-06	7.3916E+18	5.6239E+17
Ru-106	6.2956E+03	1.8818E-03	1.0691E+22	3.9364E+17
Rh-105	9.4808E+03	1.1233E-05	6.4423E+19	5.9246E+17
Sb-127	1.5804E+04	5.9180E-05	2.8062E+20	9.8993E+17
Sb-129	4.9371E+04	8.7795E-06	4.0986E+19	3.2084E+18
Te-127	1.5805E+04	5.9888E-06	2.8398E+19	9.8503E+17
Te-127m	2.7094E+03	2.8724E-04	1.3621E+21	1.6940E+17
Te-129	5.2538E+04	2.5087E-06	1.1711E+19	3.2535E+18
Te-129m	1.1149E+04	3.7009E-04	1.7277E+21	6.9708E+17
Te-131m	3.5373E+04	4.4360E-05	2.0393E+20	2.2239E+18
Te-132	2.5314E+05	8.3381E-04	3.8040E+21	1.5861E+19
I-131	9.0500E+05	7.2999E-03	3.3558E+22	1.0675E+20
I-132	1.2778E+06	1.2379E-04	5.6477E+20	1.5199E+20
I-133	1.8129E+06	1.6003E-03	7.2461E+21	2.1699E+20
I-134	9.4225E+05	3.5321E-05	1.5874E+20	1.6707E+20
I-135	1.6064E+06	4.5741E-04	2.0404E+21	1.9912E+20
Xe-133	5.8174E+07	3.1079E-01	1.4072E+24	2.8158E+21
Xe-135	2.0601E+07	8.0669E-03	3.5985E+22	9.9382E+20
Cs-134	1.8040E+05	1.3943E-01	6.2662E+23	2.3957E+19
Cs-136	4.9126E+04	6.7029E-04	2.9681E+21	6.5311E+18
Cs-137	1.4308E+05	1.6449E+00	7.2307E+24	1.9000E+19
Ba-139	7.8437E+04	4.7954E-06	2.0776E+19	5.5445E+18
Ba-140	1.3029E+05	1.7797E-03	7.6554E+21	8.1507E+18
La-140	1.6776E+03	3.0181E-06	1.2983E+19	9.0345E+16
La-141	9.9789E+02	1.7645E-07	7.5363E+17	6.5099E+16
La-142	7.4231E+02	5.1855E-08	2.1991E+17	5.1782E+16
Ce-141	2.9977E+03	1.0521E-04	4.4934E+20	1.8744E+17
Ce-143	2.7401E+03	4.1261E-06	1.7376E+19	1.7218E+17
Ce-144	2.5759E+03	8.0763E-04	3.3775E+21	1.6106E+17
Pr-143	1.0843E+03	1.6102E-05	6.7808E+19	6.7763E+16
Nd-147	4.8109E+02	5.9469E-06	2.4362E+19	3.0099E+16
Np-239	3.4880E+04	1.5035E-04	3.7885E+20	2.1873E+18
Pu-238	9.2384E+00	5.3964E-04	1.3655E+21	5.7763E+14
Pu-239	8.7291E-01	1.4044E-02	3.5386E+22	5.4576E+13
Pu-240	1.5990E+00	7.0174E-03	1.7608E+22	9.9979E+13
Pu-241	3.5311E+02	3.4278E-03	8.5654E+21	2.2078E+16
Am-241	2.3188E-01	6.7562E-05	1.6882E+20	1.4498E+13
Cm-242	5.8975E+01	1.7794E-05	4.4280E+19	3.6876E+15
Cm-244	3.4290E+00	4.2384E-05	1.0461E+20	2.1440E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 1.0000	Atmosphere	Sump	
Noble gases (atoms)	1.0528E+25	0.0000E+00	
Elemental I (atoms)	2.0788E+21	2.3023E+22	
Organic I (atoms)	7.7039E+20	0.0000E+00	
Aerosols (kg)	1.9087E+00	2.2452E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6906E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8933E-04
Total I (Ci)			6.5443E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2586E+21
Elemental I (atoms)	0.0000E+00	6.7212E+17
Organic I (atoms)	0.0000E+00	1.2738E+17
Aerosols (kg)	0.0000E+00	6.6358E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2586E+21
Elemental I (atoms)	0.0000E+00	6.7212E+17
Organic I (atoms)	0.0000E+00	1.2738E+17
Aerosols (kg)	0.0000E+00	6.6358E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2825E+20
Elemental I (atoms)	0.0000E+00	3.3550E+17
Organic I (atoms)	0.0000E+00	6.3581E+16
Aerosols (kg)	0.0000E+00	3.3123E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4443E+15
Elemental I (atoms)	0.0000E+00	2.3862E+12
Organic I (atoms)	0.0000E+00	4.5000E+11
Aerosols (kg)	0.0000E+00	2.3569E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1162E+06
Elemental I (atoms)	0.0000E+00	2.2394E+03
Organic I (atoms)	0.0000E+00	2.7807E+02
Aerosols (kg)	0.0000E+00	2.3166E-18

Environment Integral Nuclide Release:

Time (h) = 1.0000	Ci	kg	Atoms	Bq
Co-58	1.1771E-04	3.7019E-12	3.8437E+13	4.3554E+06
Co-60	1.4094E-04	1.2468E-10	1.2514E+15	5.2147E+06
Kr-85	9.3077E+00	2.3724E-05	1.6808E+20	3.4438E+11
Kr-85m	1.2158E+02	1.4774E-08	1.0467E+17	4.4986E+12
Kr-87	1.7575E+02	6.2045E-09	4.2948E+16	6.5027E+12
Kr-88	3.1398E+02	2.5040E-08	1.7135E+17	1.1617E+13
Rb-86	1.5481E-02	1.9026E-10	1.3323E+15	5.7279E+08
Sr-89	1.5966E-01	5.4957E-09	3.7186E+16	5.9075E+09

Sr-90	2.5126E-02	1.8420E-07	1.2325E+18	9.2967E+08
Sr-91	1.8984E-01	5.2369E-11	3.4656E+14	7.0239E+09
Sr-92	1.7066E-01	1.3577E-11	8.8874E+13	6.3144E+09
Y-90	3.3646E-04	6.1842E-13	4.1380E+12	1.2449E+07
Y-91	2.0740E-03	8.4569E-11	5.5965E+14	7.6736E+07
Y-92	1.1727E-02	1.2188E-12	7.9778E+12	4.3391E+08
Y-93	1.5446E-03	4.6296E-13	2.9978E+12	5.7149E+07
Zr-95	2.9404E-03	1.3687E-10	8.6764E+14	1.0879E+08
Zr-97	2.7568E-03	1.4421E-12	8.9530E+12	1.0200E+08
Nb-95	2.9416E-03	7.5225E-11	4.7686E+14	1.0884E+08
Mo-99	3.8196E-02	7.9640E-11	4.8445E+14	1.4133E+09
Tc-99m	3.4189E-02	6.5020E-12	3.9551E+13	1.2650E+09
Ru-103	3.3173E-02	1.0278E-09	6.0096E+15	1.2274E+09
Ru-105	2.0253E-02	3.0129E-12	1.7280E+13	7.4934E+08
Ru-106	1.4477E-02	4.3273E-09	2.4584E+16	5.3566E+08
Rh-105	2.1805E-02	2.5833E-11	1.4816E+14	8.0678E+08
Sb-127	3.6371E-02	1.3620E-10	6.4582E+14	1.3457E+09
Sb-129	1.1547E-01	2.0534E-11	9.5860E+13	4.2724E+09
Te-127	3.6347E-02	1.3772E-11	6.5306E+13	1.3448E+09
Te-127m	6.2305E-03	6.6053E-10	3.1321E+15	2.3053E+08
Te-129	1.2162E-01	5.8074E-12	2.7111E+13	4.5000E+09
Te-129m	2.5638E-02	8.5105E-10	3.9730E+15	9.4862E+08
Te-131m	8.1539E-02	1.0226E-10	4.7007E+14	3.0170E+09
Te-132	5.8265E-01	1.9192E-09	8.7557E+15	2.1558E+10
I-131	1.2633E+01	1.0190E-07	4.6843E+17	4.6742E+11
I-132	1.6029E+01	1.5529E-09	7.0847E+15	5.9309E+11
I-133	2.5520E+01	2.2528E-08	1.0200E+17	9.4423E+11
I-134	1.6555E+01	6.2059E-10	2.7890E+15	6.1254E+11
I-135	2.3061E+01	6.5666E-09	2.9293E+16	8.5326E+11
Xe-133	1.0779E+03	5.7585E-06	2.6074E+19	3.9882E+13
Xe-135	3.7260E+02	1.4591E-07	6.5086E+17	1.3786E+13
Cs-134	2.0428E+00	1.5789E-06	7.0958E+18	7.5585E+10
Cs-136	5.5664E-01	7.5950E-09	3.3631E+16	2.0596E+10
Cs-137	1.6202E+00	1.8627E-05	8.1878E+19	5.9947E+10
Ba-139	1.9041E-01	1.1641E-11	5.0435E+13	7.0453E+09
Ba-140	2.9968E-01	4.0935E-09	1.7608E+16	1.1088E+10
La-140	4.6648E-03	8.3926E-12	3.6101E+13	1.7260E+08
La-141	2.3379E-03	4.1340E-13	1.7656E+12	8.6503E+07
La-142	1.7914E-03	1.2514E-13	5.3072E+11	6.6283E+07
Ce-141	6.8929E-03	2.4191E-10	1.0332E+15	2.5504E+08
Ce-143	6.3148E-03	9.5091E-12	4.0045E+13	2.3365E+08
Ce-144	5.9235E-03	1.8572E-09	7.7669E+15	2.1917E+08
Pr-143	2.4946E-03	3.7046E-11	1.5601E+14	9.2300E+07
Nd-147	1.1066E-03	1.3679E-11	5.6038E+13	4.0944E+07
Np-239	8.0313E-02	3.4619E-10	8.7230E+14	2.9716E+09
Pu-238	2.1244E-05	1.2409E-09	3.1399E+15	7.8604E+05
Pu-239	2.0073E-06	3.2294E-08	8.1371E+16	7.4269E+04
Pu-240	3.6770E-06	1.6137E-08	4.0491E+16	1.3605E+05
Pu-241	8.1199E-04	7.8824E-09	1.9697E+16	3.0044E+07
Am-241	5.3324E-07	1.5536E-10	3.8823E+14	1.9730E+04
Cm-242	1.3562E-04	4.0919E-11	1.0183E+14	5.0179E+06
Cm-244	7.8852E-06	9.7465E-11	2.4055E+14	2.9175E+05

Environment Transport Group Inventory:

Time (h) = 1.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.9512E+20	5.4201E+16	
Elemental I (atoms)	1.9442E+17	5.4006E+13	
Organic I (atoms)	2.6338E+16	7.3161E+12	
Aerosols (kg)	2.0562E-05	5.7118E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.7660E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.2233E+01
Total I (Ci)			9.3798E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3576E+20
Elemental I (atoms)    9.1789E+15  1.2502E+17
Organic I (atoms)      0.0000E+00  1.7483E+16
Aerosols (kg)          1.2145E-04  1.6844E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1978E+19
Elemental I (atoms)    1.0632E+16  6.0390E+16
Organic I (atoms)      0.0000E+00  7.7661E+15
Aerosols (kg)          1.4504E-05  3.5763E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4354E+18
Elemental I (atoms)    1.6549E+15  9.3997E+15
Organic I (atoms)      0.0000E+00  1.1402E+15
Aerosols (kg)          1.1850E-06  1.4601E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2443E+17
Elemental I (atoms)    1.2532E+14  1.0948E+14
Organic I (atoms)      2.1258E+13  9.5882E+12
Aerosols (kg)          1.2531E-08  1.2410E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2762E+17
Elemental I (atoms)    0.0000E+00  2.2453E+14
Organic I (atoms)      0.0000E+00  2.1755E+13
Aerosols (kg)          0.0000E+00  2.5112E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    1.3125E+17  0.0000E+00
Elemental I (atoms)    2.2744E+14  0.0000E+00
Organic I (atoms)      1.8839E+13  0.0000E+00
Aerosols (kg)          2.6107E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.8328E-01  5.8955E+00  8.6209E-01
Accumulated dose (rem)  6.3422E-01  7.5991E+00  9.8574E-01

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1116E-02  6.1774E-01  9.0331E-02
Accumulated dose (rem)  6.6454E-02  7.9624E-01  1.0329E-01

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	4.9565E-02	5.4459E+00	2.9030E-01
Accumulated dose (rem)	5.3403E-02	9.6176E+00	4.6309E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.1195E+01	1.6100E-06	1.6717E+19	1.0021E+16
Co-60	6.1322E+01	5.4249E-05	5.4449E+20	1.2000E+16
Kr-85	1.3690E+06	3.4893E+00	2.4721E+25	1.4950E+20
Kr-85m	1.4959E+07	1.8177E-03	1.2879E+22	1.7842E+21
Kr-87	1.3738E+07	4.8502E-04	3.3573E+21	2.0853E+21
Kr-88	3.4836E+07	2.7781E-03	1.9012E+22	4.3801E+21
Rb-86	1.3646E+03	1.6770E-05	1.1743E+20	3.6351E+17
Sr-89	6.9426E+04	2.3897E-03	1.6170E+22	1.3591E+19
Sr-90	1.0933E+04	8.0147E-02	5.3628E+23	2.1393E+18
Sr-91	7.6200E+04	2.1021E-05	1.3911E+20	1.5741E+19
Sr-92	5.5956E+04	4.4517E-06	2.9140E+19	1.3297E+19
Y-90	1.2121E+02	2.2280E-07	1.4908E+18	2.3267E+16
Y-91	8.9831E+02	3.6630E-05	2.4241E+20	1.7577E+17
Y-92	1.6534E+03	1.7183E-07	1.1247E+18	3.0818E+17
Y-93	6.2297E+02	1.8672E-07	1.2091E+18	1.2828E+17
Zr-95	1.2787E+03	5.9524E-05	3.7733E+20	2.5032E+17
Zr-97	1.1464E+03	5.9966E-07	3.7229E+18	2.3123E+17
Nb-95	1.2799E+03	3.2731E-05	2.0748E+20	2.5045E+17
Mo-99	1.6428E+04	3.4252E-05	2.0835E+20	3.2397E+18
Tc-99m	1.4837E+04	2.8217E-06	1.7165E+19	2.9027E+18
Ru-103	1.4422E+04	4.4686E-04	2.6127E+21	2.8237E+18
Ru-105	7.4151E+03	1.1031E-06	6.3267E+18	1.6313E+18
Ru-106	6.2986E+03	1.8827E-03	1.0696E+22	1.2326E+18
Rh-105	9.4577E+03	1.1205E-05	6.4265E+19	1.8542E+18
Sb-127	1.5695E+04	5.8771E-05	2.7868E+20	3.0883E+18
Sb-129	4.2075E+04	7.4822E-06	3.4929E+19	9.2873E+18
Te-127	1.5797E+04	5.9858E-06	2.8384E+19	3.0895E+18
Te-127m	2.7110E+03	2.8741E-04	1.3628E+21	5.3049E+17
Te-129	4.7922E+04	2.2883E-06	1.0682E+19	9.9355E+18
Te-129m	1.1154E+04	3.7027E-04	1.7285E+21	2.1829E+18
Te-131m	3.4584E+04	4.3371E-05	1.9938E+20	6.8840E+18
Te-132	2.5104E+05	8.2691E-04	3.7726E+21	4.9448E+19
I-131	9.2234E+05	7.4397E-03	3.4201E+22	2.2848E+20
I-132	1.3148E+06	1.2738E-04	5.8113E+20	3.2591E+20
I-133	1.7924E+06	1.5823E-03	7.1644E+21	4.5716E+20
I-134	4.3685E+05	1.6376E-05	7.3595E+19	2.5467E+20
I-135	1.4786E+06	4.2103E-04	1.8782E+21	4.0451E+20
Xe-133	1.5817E+08	8.4501E-01	3.8261E+24	1.7299E+22
Xe-135	5.6620E+07	2.2171E-02	9.8903E+22	6.1649E+21
Cs-134	1.8042E+05	1.3945E-01	6.2668E+23	4.7989E+19
Cs-136	4.9024E+04	6.6890E-04	2.9619E+21	1.3068E+19
Cs-137	1.4310E+05	1.6452E+00	7.2316E+24	3.8061E+19
Ba-139	4.7464E+04	2.9017E-06	1.2572E+19	1.3760E+19
Ba-140	1.3007E+05	1.7766E-03	7.6423E+21	2.5495E+19
La-140	1.5513E+03	2.7910E-06	1.2005E+19	2.9516E+17
La-141	8.3700E+02	1.4800E-07	6.3212E+17	1.8702E+17
La-142	4.7376E+02	3.3095E-08	1.4036E+17	1.3146E+17
Ce-141	2.9988E+03	1.0525E-04	4.4951E+20	5.8691E+17
Ce-143	2.6846E+03	4.0426E-06	1.7024E+19	5.3354E+17
Ce-144	2.5771E+03	8.0799E-04	3.3790E+21	5.0433E+17
Pr-143	1.0847E+03	1.6108E-05	6.7833E+19	2.1223E+17
Nd-147	4.8009E+02	5.9345E-06	2.4312E+19	9.4130E+16
Np-239	3.4474E+04	1.4860E-04	3.7444E+20	6.8074E+18
Pu-238	9.2437E+00	5.3994E-04	1.3662E+21	1.8088E+15
Pu-239	8.7350E-01	1.4053E-02	3.5410E+22	1.7092E+14
Pu-240	1.5999E+00	7.0212E-03	1.7618E+22	3.1308E+14
Pu-241	3.5330E+02	3.4297E-03	8.5701E+21	6.9136E+16
Am-241	2.3204E-01	6.7606E-05	1.6893E+20	4.5402E+13
Cm-242	5.8997E+01	1.7801E-05	4.4297E+19	1.1546E+16
Cm-244	3.4309E+00	4.2407E-05	1.0467E+20	6.7137E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8682E+25	0.0000E+00	
Elemental I (atoms)	2.0495E+21	5.3987E+22	
Organic I (atoms)	1.7048E+21	0.0000E+00	
Aerosols (kg)	1.9088E+00	5.1086E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.7276E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.8708E-04
Total I (Ci)			5.9450E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6273E+21
Elemental I (atoms)	0.0000E+00	1.4479E+18
Organic I (atoms)	0.0000E+00	5.9342E+17
Aerosols (kg)	0.0000E+00	1.3809E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6273E+21
Elemental I (atoms)	0.0000E+00	1.4479E+18
Organic I (atoms)	0.0000E+00	5.9342E+17
Aerosols (kg)	0.0000E+00	1.3809E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3064E+21
Elemental I (atoms)	0.0000E+00	7.2272E+17
Organic I (atoms)	0.0000E+00	2.9621E+17
Aerosols (kg)	0.0000E+00	6.8930E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0451E+16
Elemental I (atoms)	0.0000E+00	5.1241E+12
Organic I (atoms)	0.0000E+00	2.0949E+12
Aerosols (kg)	0.0000E+00	4.8887E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2982E+07
Elemental I (atoms)	0.0000E+00	9.6517E+03
Organic I (atoms)	0.0000E+00	2.5941E+03
Aerosols (kg)	0.0000E+00	9.5686E-18

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.2240E-03	3.8495E-11	3.9969E+14	4.5290E+07
Co-60	1.4659E-03	1.2968E-09	1.3016E+16	5.4238E+07
Kr-85	1.5791E+02	4.0248E-04	2.8515E+21	5.8425E+12
Kr-85m	1.8372E+03	2.2325E-07	1.5817E+18	6.7978E+13
Kr-87	1.9995E+03	7.0589E-08	4.8862E+17	7.3981E+13
Kr-88	4.4413E+03	3.5419E-07	2.4239E+18	1.6433E+14
Rb-86	5.8545E-02	7.1952E-10	5.0384E+15	2.1662E+09
Sr-89	1.6601E+00	5.7141E-08	3.8664E+17	6.1422E+10
Sr-90	2.6134E-01	1.9159E-06	1.2820E+19	9.6696E+09

Sr-91	1.8870E+00	5.2056E-10	3.4449E+15	6.9819E+10
Sr-92	1.5179E+00	1.2076E-10	7.9046E+14	5.6161E+10
Y-90	4.2568E-03	7.8241E-12	5.2353E+13	1.5750E+08
Y-91	2.1671E-02	8.8367E-10	5.8479E+15	8.0183E+08
Y-92	1.8639E-01	1.9371E-11	1.2680E+14	6.8965E+09
Y-93	1.5395E-02	4.6142E-12	2.9879E+13	5.6960E+08
Zr-95	3.0575E-02	1.4232E-09	9.0219E+15	1.1313E+09
Zr-97	2.7951E-02	1.4621E-11	9.0773E+13	1.0342E+09
Nb-95	3.0595E-02	7.8243E-10	4.9599E+15	1.1320E+09
Mo-99	3.9469E-01	8.2293E-10	5.0059E+15	1.4603E+10
Tc-99m	3.5512E-01	6.7536E-11	4.1082E+14	1.3140E+10
Ru-103	3.4488E-01	1.0686E-08	6.2478E+16	1.2760E+10
Ru-105	1.9131E-01	2.8460E-11	1.6323E+14	7.0783E+09
Ru-106	1.5057E-01	4.5006E-08	2.5569E+17	5.5712E+09
Rh-105	2.2645E-01	2.6829E-10	1.5387E+15	8.3786E+09
Sb-127	3.7653E-01	1.4100E-09	6.6858E+15	1.3932E+10
Sb-129	1.0879E+00	1.9345E-10	9.0311E+14	4.0251E+10
Te-127	3.7782E-01	1.4316E-10	6.7886E+14	1.3980E+10
Te-127m	6.4805E-02	6.8703E-09	3.2578E+16	2.3978E+09
Te-129	1.1996E+00	5.7280E-11	2.6740E+14	4.4384E+10
Te-129m	2.6666E-01	8.8516E-09	4.1322E+16	9.8663E+09
Te-131m	8.3597E-01	1.0484E-09	4.8194E+15	3.0931E+10
Te-132	6.0268E+00	1.9852E-08	9.0567E+16	2.2299E+11
I-131	5.6330E+01	4.5437E-07	2.0887E+18	2.0842E+12
I-132	6.8003E+01	6.5880E-09	3.0056E+16	2.5161E+12
I-133	1.1160E+02	9.8515E-08	4.4607E+17	4.1292E+12
I-134	4.6460E+01	1.7416E-09	7.8270E+15	1.7190E+12
I-135	9.6343E+01	2.7434E-08	1.2238E+17	3.5647E+12
Xe-133	1.8242E+04	9.7456E-05	4.4127E+20	6.7496E+14
Xe-135	6.2940E+03	2.4646E-06	1.0994E+19	2.3288E+14
Cs-134	7.7328E+00	5.9767E-06	2.6860E+19	2.8611E+11
Cs-136	2.1043E+00	2.8711E-08	1.2713E+17	7.7858E+10
Cs-137	6.1331E+00	7.0510E-05	3.0994E+20	2.2693E+11
Ba-139	1.4652E+00	8.9578E-11	3.8810E+14	5.4214E+10
Ba-140	3.1126E+00	4.2517E-08	1.8289E+17	1.1517E+11
La-140	6.2776E-02	1.1294E-10	4.8582E+14	2.3227E+09
La-141	2.1814E-02	3.8571E-12	1.6474E+13	8.0710E+08
La-142	1.4215E-02	9.9298E-13	4.2112E+12	5.2594E+08
Ce-141	7.1678E-02	2.5156E-09	1.0744E+16	2.6521E+09
Ce-143	6.4826E-02	9.7618E-11	4.1110E+14	2.3986E+09
Ce-144	6.1607E-02	1.9316E-08	8.0779E+16	2.2795E+09
Pr-143	2.5969E-02	3.8565E-10	1.6241E+15	9.6086E+08
Nd-147	1.1491E-02	1.4204E-10	5.8190E+14	4.2517E+08
Np-239	8.2897E-01	3.5733E-09	9.0037E+15	3.0672E+10
Pu-238	2.2097E-04	1.2907E-08	3.2659E+16	8.1757E+06
Pu-239	2.0880E-05	3.3592E-07	8.4642E+17	7.7254E+05
Pu-240	3.8245E-05	1.6784E-07	4.2115E+17	1.4151E+06
Pu-241	8.4456E-03	8.1986E-08	2.0487E+17	3.1249E+08
Am-241	5.5469E-06	1.6162E-09	4.0385E+15	2.0524E+05
Cm-242	1.4104E-03	4.2556E-10	1.0590E+15	5.2186E+07
Cm-244	8.2014E-05	1.0137E-09	2.5020E+15	3.0345E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.3083E+21	4.5948E+17
Elemental I (atoms)	8.5377E+17	1.1858E+14
Organic I (atoms)	2.6152E+17	3.6322E+13
Aerosols (kg)	7.9605E-05	1.1056E-08

Dose Effective (Ci) I-131 (Thyroid)	7.8147E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.7419E+01
Total I (Ci)	3.7874E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9224E+21
Elemental I (atoms)    3.4641E+16  4.7181E+17
Organic I (atoms)      0.0000E+00  1.4734E+17
Aerosols (kg)          4.3726E-04  6.0645E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1872E+21
Elemental I (atoms)    5.6496E+16  3.2090E+17
Organic I (atoms)      0.0000E+00  9.7339E+16
Aerosols (kg)          7.3206E-05  1.8051E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9871E+20
Elemental I (atoms)    1.0838E+16  6.1562E+16
Organic I (atoms)      0.0000E+00  1.6936E+16
Aerosols (kg)          7.4181E-06  9.1403E-07

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6625E+18
Elemental I (atoms)    8.4632E+14  1.1676E+14
Organic I (atoms)      2.7843E+14  1.2186E+13
Aerosols (kg)          7.7084E-08  1.3062E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8209E+17
Elemental I (atoms)    0.0000E+00  3.8435E+14
Organic I (atoms)      0.0000E+00  7.8759E+13
Aerosols (kg)          0.0000E+00  3.9420E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.9516E+18  0.0000E+00
Elemental I (atoms)    3.8832E+14  0.0000E+00
Organic I (atoms)      5.3211E+13  0.0000E+00
Aerosols (kg)          4.2311E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3128E-01  9.4296E-01  1.7611E-01
Accumulated dose (rem)  7.6550E-01  8.5421E+00  1.1618E+00

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.7010E-03  4.0949E-02  7.6479E-03
Accumulated dose (rem)  7.2155E-02  8.3719E-01  1.1093E-01

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0773E-02  1.1548E+00  7.4510E-02
```

Accumulated dose (rem) 7.4176E-02 1.0772E+01 5.3760E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	2.5483E+00	8.0141E-08	8.3210E+17	1.0207E+16
Co-60	3.0526E+00	2.7005E-06	2.7105E+19	1.2223E+16
Kr-85	1.3688E+06	3.4889E+00	2.4719E+25	1.8596E+20
Kr-85m	1.4502E+07	1.7622E-03	1.2485E+22	2.1766E+21
Kr-87	1.2318E+07	4.3488E-04	3.0102E+21	2.4320E+21
Kr-88	3.3172E+07	2.6455E-03	1.8104E+22	5.2858E+21
Rb-86	6.7908E+01	8.3458E-07	5.8441E+18	3.6847E+17
Sr-89	3.4557E+03	1.1895E-04	8.0485E+20	1.3844E+19
Sr-90	5.4423E+02	3.9897E-03	2.6696E+22	2.1791E+18
Sr-91	3.7383E+03	1.0313E-06	6.8246E+18	1.6017E+19
Sr-92	2.6466E+03	2.1056E-07	1.3783E+18	1.3496E+19
Y-90	7.1993E+00	1.3232E-08	8.8542E+16	2.3715E+16
Y-91	4.4870E+01	1.8296E-06	1.2108E+19	1.7904E+17
Y-92	1.8444E+02	1.9168E-08	1.2547E+17	3.1482E+17
Y-93	3.0589E+01	9.1685E-09	5.9370E+16	1.3053E+17
Zr-95	6.3651E+01	2.9629E-06	1.8782E+19	2.5496E+17
Zr-97	5.6600E+01	2.9608E-08	1.8382E+17	2.3539E+17
Nb-95	6.3713E+01	1.6294E-06	1.0329E+19	2.5510E+17
Mo-99	8.1607E+02	1.7015E-06	1.0350E+19	3.2993E+18
Tc-99m	7.3826E+02	1.4040E-07	8.5405E+17	2.9563E+18
Ru-103	7.1783E+02	2.2242E-05	1.3004E+20	2.8761E+18
Ru-105	3.5778E+02	5.3225E-08	3.0527E+17	1.6580E+18
Ru-106	3.1354E+02	9.3718E-05	5.3244E+20	1.2555E+18
Rh-105	4.7039E+02	5.5730E-07	3.1963E+18	1.8886E+18
Sb-127	7.8013E+02	2.9212E-06	1.3852E+19	3.1453E+18
Sb-129	2.0284E+03	3.6071E-07	1.6839E+18	9.4385E+18
Te-127	7.8622E+02	2.9791E-07	1.4127E+18	3.1467E+18
Te-127m	1.3495E+02	1.4307E-05	6.7843E+19	5.4035E+17
Te-129	2.3429E+03	1.1187E-07	5.2226E+17	1.0104E+19
Te-129m	5.5526E+02	1.8432E-05	8.6045E+19	2.2234E+18
Te-131m	1.7137E+03	2.1491E-06	9.8794E+18	7.0095E+18
Te-132	1.2475E+04	4.1091E-05	1.8747E+20	5.0360E+19
I-131	7.9891E+04	6.4442E-04	2.9624E+21	2.3265E+20
I-132	1.0824E+05	1.0486E-05	4.7839E+19	3.3174E+20
I-133	1.5433E+05	1.3624E-04	6.1688E+20	4.6525E+20
I-134	3.2328E+04	1.2118E-06	5.4461E+18	2.5654E+20
I-135	1.2550E+05	3.5737E-05	1.5942E+20	4.1115E+20
Xe-133	1.5798E+08	8.4399E-01	3.8215E+24	2.1510E+22
Xe-135	5.5760E+07	2.1835E-02	9.7401E+22	7.6617E+21
Cs-134	8.9813E+03	6.9416E-03	3.1196E+22	4.8645E+19
Cs-136	2.4394E+03	3.3284E-05	1.4738E+20	1.3246E+19
Cs-137	7.1235E+03	8.1897E-02	3.5999E+23	3.8581E+19
Ba-139	2.1367E+03	1.3063E-07	5.6595E+17	1.3926E+19
Ba-140	6.4718E+03	8.8403E-05	3.8027E+20	2.5967E+19
La-140	9.9224E+01	1.7852E-07	7.6789E+17	3.0094E+17
La-141	4.0222E+01	7.1123E-09	3.0377E+16	1.9003E+17
La-142	2.1556E+01	1.5058E-09	6.3861E+15	1.3313E+17
Ce-141	1.4926E+02	5.2385E-06	2.2374E+19	5.9781E+17
Ce-143	1.3308E+02	2.0040E-07	8.4393E+17	5.4329E+17
Ce-144	1.2829E+02	4.0221E-05	1.6821E+20	5.1370E+17
Pr-143	5.4029E+01	8.0234E-07	3.3789E+18	2.1617E+17
Nd-147	2.3887E+01	2.9527E-07	1.2096E+18	9.5874E+16
Np-239	1.7120E+03	7.3794E-06	1.8594E+19	6.9326E+18
Pu-238	4.6016E-01	2.6879E-05	6.8012E+19	1.8424E+15
Pu-239	4.3485E-02	6.9960E-04	1.7628E+21	1.7409E+14
Pu-240	7.9644E-02	3.4952E-04	8.7703E+20	3.1889E+14
Pu-241	1.7587E+01	1.7073E-04	4.2662E+20	7.0420E+16
Am-241	1.1552E-02	3.3657E-06	8.4102E+18	4.6246E+13
Cm-242	2.9368E+00	8.8610E-07	2.2051E+18	1.1761E+16
Cm-244	1.7079E-01	2.1111E-06	5.2103E+18	6.8385E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.2000    Atmosphere     Sump
Noble gases (atoms)    2.8671E+25  0.0000E+00
Elemental I (atoms)    1.0167E+20  5.5833E+22
Organic I (atoms)      1.6988E+21  0.0000E+00
Aerosols (kg)          9.5020E-02  5.2805E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0850E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0570E-05
Total I (Ci)                                   5.0029E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.8915E+21
Elemental I (atoms)    0.0000E+00  1.4750E+18
Organic I (atoms)      0.0000E+00  6.6851E+17
Aerosols (kg)          0.0000E+00  1.4062E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.8915E+21
Elemental I (atoms)    0.0000E+00  1.4750E+18
Organic I (atoms)      0.0000E+00  6.6851E+17
Aerosols (kg)          0.0000E+00  1.4062E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9403E+21
Elemental I (atoms)    0.0000E+00  7.3632E+17
Organic I (atoms)      0.0000E+00  3.3386E+17
Aerosols (kg)          0.0000E+00  7.0197E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.8059E+16
Elemental I (atoms)    0.0000E+00  5.2873E+12
Organic I (atoms)      0.0000E+00  2.5467E+12
Aerosols (kg)          0.0000E+00  5.0407E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6675E+07
Elemental I (atoms)    0.0000E+00  1.1715E+04
Organic I (atoms)      0.0000E+00  3.5122E+03
Aerosols (kg)          0.0000E+00  1.1573E-17

Environment Integral Nuclide Release:

Time (h) =   2.2000       Ci           kg          Atoms         Bq
Co-58                  1.4152E-03  4.4505E-11  4.6210E+14  5.2362E+07
Co-60                  1.6948E-03  1.4993E-09  1.5049E+16  6.2709E+07
Kr-85                  1.9534E+02  4.9788E-04  3.5274E+21  7.2274E+12
Kr-85m                 2.2368E+03  2.7180E-07  1.9257E+18  8.2761E+13
Kr-87                  2.3454E+03  8.2803E-08  5.7316E+17  8.6781E+13
Kr-88                  5.3592E+03  4.2740E-07  2.9248E+18  1.9829E+14
Rb-86                  6.4867E-02  7.9721E-10  5.5824E+15  2.4001E+09
Sr-89                  1.9193E+00  6.6062E-08  4.4701E+17  7.1012E+10
Sr-90                  3.0216E-01  2.2151E-06  1.4822E+19  1.1180E+10
Sr-91                  2.1684E+00  5.9819E-10  3.9586E+15  8.0231E+10
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Sr-92	1.7189E+00	1.3676E-10	8.9517E+14	6.3601E+10
Y-90	5.0655E-03	9.3106E-12	6.2300E+13	1.8743E+08
Y-91	2.5074E-02	1.0224E-09	6.7662E+15	9.2775E+08
Y-92	2.2560E-01	2.3445E-11	1.5347E+14	8.3471E+09
Y-93	1.7697E-02	5.3043E-12	3.4347E+13	6.5478E+08
Zr-95	3.5349E-02	1.6454E-09	1.0431E+16	1.3079E+09
Zr-97	3.2204E-02	1.6846E-11	1.0459E+14	1.1916E+09
Nb-95	3.5374E-02	9.0463E-10	5.7345E+15	1.3088E+09
Mo-99	4.5593E-01	9.5061E-10	5.7825E+15	1.6869E+10
Tc-99m	4.1050E-01	7.8068E-11	4.7488E+14	1.5188E+10
Ru-103	3.9872E-01	1.2354E-08	7.2231E+16	1.4752E+10
Ru-105	2.1835E-01	3.2483E-11	1.8630E+14	8.0790E+09
Ru-106	1.7409E-01	5.2035E-08	2.9563E+17	6.4413E+09
Rh-105	2.6174E-01	3.1010E-10	1.7785E+15	9.6843E+09
Sb-127	4.3507E-01	1.6291E-09	7.7252E+15	1.6097E+10
Sb-129	1.2412E+00	2.2073E-10	1.0304E+15	4.5926E+10
Te-127	4.3680E-01	1.6551E-10	7.8482E+14	1.6161E+10
Te-127m	7.4927E-02	7.9434E-09	3.7666E+16	2.7723E+09
Te-129	1.3761E+00	6.5709E-11	3.0675E+14	5.0916E+10
Te-129m	3.0830E-01	1.0234E-08	4.7776E+16	1.1407E+10
Te-131m	9.6464E-01	1.2097E-09	5.5612E+15	3.5692E+10
Te-132	6.9628E+00	2.2935E-08	1.0463E+17	2.5762E+11
I-131	6.3349E+01	5.1098E-07	2.3490E+18	2.3439E+12
I-132	7.5847E+01	7.3480E-09	3.3523E+16	2.8063E+12
I-133	1.2518E+02	1.1051E-07	5.0037E+17	4.6318E+12
I-134	4.9418E+01	1.8525E-09	8.3252E+15	1.8284E+12
I-135	1.0743E+02	3.0590E-08	1.3646E+17	3.9749E+12
Xe-133	2.2557E+04	1.2051E-04	5.4566E+20	8.3461E+14
Xe-135	7.7651E+03	3.0407E-06	1.3564E+19	2.8731E+14
Cs-134	8.5688E+00	6.6228E-06	2.9764E+19	3.1705E+11
Cs-136	2.3314E+00	3.1810E-08	1.4085E+17	8.6260E+10
Cs-137	6.7962E+00	7.8133E-05	3.4345E+20	2.5146E+11
Ba-139	1.6296E+00	9.9629E-11	4.3164E+14	6.0296E+10
Ba-140	3.5980E+00	4.9148E-08	2.1141E+17	1.3313E+11
La-140	7.5284E-02	1.3544E-10	5.8262E+14	2.7855E+09
La-141	2.4857E-02	4.3953E-12	1.8772E+13	9.1971E+08
La-142	1.5868E-02	1.1085E-12	4.7012E+12	5.8713E+08
Ce-141	8.2871E-02	2.9084E-09	1.2422E+16	3.0662E+09
Ce-143	7.4818E-02	1.1266E-10	4.7446E+14	2.7683E+09
Ce-144	7.1229E-02	2.2332E-08	9.3395E+16	2.6355E+09
Pr-143	3.0030E-02	4.4595E-10	1.8780E+15	1.1111E+09
Nd-147	1.3283E-02	1.6419E-10	6.7264E+14	4.9146E+08
Np-239	9.5745E-01	4.1271E-09	1.0399E+16	3.5426E+10
Pu-238	2.5548E-04	1.4923E-08	3.7760E+16	9.4527E+06
Pu-239	2.4141E-05	3.8839E-07	9.7863E+17	8.9322E+05
Pu-240	4.4219E-05	1.9406E-07	4.8693E+17	1.6361E+06
Pu-241	9.7647E-03	9.4791E-08	2.3686E+17	3.6129E+08
Am-241	6.4134E-06	1.8686E-09	4.6693E+15	2.3729E+05
Cm-242	1.6307E-03	4.9202E-10	1.2244E+15	6.0336E+07
Cm-244	9.4824E-05	1.1721E-09	2.8928E+15	3.5085E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	4.0921E+21	5.1667E+17
Elemental I (atoms)	9.5602E+17	1.2071E+14
Organic I (atoms)	3.1401E+17	3.9647E+13
Aerosols (kg)	8.8345E-05	1.1155E-08

Dose Effective (Ci) I-131 (Thyroid)	8.7797E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0932E+02
Total I (Ci)	4.2123E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.3405E+21
Elemental I (atoms)    3.8318E+16  5.2188E+17
Organic I (atoms)      0.0000E+00  1.7459E+17
Aerosols (kg)          4.8248E-04  6.6917E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4965E+21
Elemental I (atoms)    6.4011E+16  3.6359E+17
Organic I (atoms)      0.0000E+00  1.1860E+17
Aerosols (kg)          8.2658E-05  2.0381E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5521E+20
Elemental I (atoms)    1.2544E+16  7.1250E+16
Organic I (atoms)      0.0000E+00  2.1006E+16
Aerosols (kg)          8.5578E-06  1.0545E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3684E+18
Elemental I (atoms)    9.3763E+14  1.1769E+14
Organic I (atoms)      3.2530E+14  1.2659E+13
Aerosols (kg)          8.4875E-08  1.3141E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0370E+18
Elemental I (atoms)    0.0000E+00  4.0459E+14
Organic I (atoms)      0.0000E+00  8.9149E+13
Aerosols (kg)          0.0000E+00  4.1148E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.7941E+18  0.0000E+00
Elemental I (atoms)    4.2174E+14  0.0000E+00
Organic I (atoms)      6.5093E+13  0.0000E+00
Aerosols (kg)          4.5397E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4345E-02  2.3635E-01  4.5531E-02
Accumulated dose (rem)  7.9985E-01  8.7784E+00  1.2074E+00

Low Population Zone Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4915E-03  1.0264E-02  1.9772E-03
Accumulated dose (rem)  7.3647E-02  8.4746E-01  1.1291E-01

Control Room Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.0596E-03  2.6906E-01  1.7618E-02
Accumulated dose (rem)  7.9235E-02  1.1041E+01  5.5522E-01
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2500	Ci	kg	Atoms	Decay
Co-58	1.2037E+00	3.7854E-08	3.9304E+17	1.0215E+16
Co-60	1.4419E+00	1.2756E-06	1.2803E+19	1.2232E+16
Kr-85	1.3688E+06	3.4888E+00	2.4718E+25	1.9508E+20
Kr-85m	1.4390E+07	1.7485E-03	1.2388E+22	2.2728E+21
Kr-87	1.1987E+07	4.2317E-04	2.9292E+21	2.5129E+21
Kr-88	3.2769E+07	2.6133E-03	1.7884E+22	5.5053E+21
Rb-86	3.2074E+01	3.9419E-07	2.7603E+18	3.6868E+17
Sr-89	1.6322E+03	5.6183E-05	3.8016E+20	1.3855E+19
Sr-90	2.5707E+02	1.8846E-03	1.2610E+22	2.1808E+18
Sr-91	1.7594E+03	4.8535E-07	3.2119E+18	1.6029E+19
Sr-92	1.2342E+03	9.8195E-08	6.4276E+17	1.3505E+19
Y-90	3.5380E+00	6.5029E-09	4.3512E+16	2.3738E+16
Y-91	2.1212E+01	8.6496E-07	5.7241E+18	1.7918E+17
Y-92	9.8433E+01	1.0230E-08	6.6961E+16	3.1540E+17
Y-93	1.4399E+01	4.3159E-09	2.7948E+16	1.3063E+17
Zr-95	3.0065E+01	1.3995E-06	8.8715E+18	2.5516E+17
Zr-97	2.6680E+01	1.3957E-08	8.6648E+16	2.3557E+17
Nb-95	3.0095E+01	7.6963E-07	4.8788E+18	2.5530E+17
Mo-99	3.8527E+02	8.0329E-07	4.8864E+18	3.3019E+18
Tc-99m	3.4867E+02	6.6309E-08	4.0336E+17	2.9586E+18
Ru-103	3.3906E+02	1.0506E-05	6.1423E+19	2.8784E+18
Ru-105	1.6768E+02	2.4946E-08	1.4307E+17	1.6591E+18
Ru-106	1.4810E+02	4.4268E-05	2.5150E+20	1.2565E+18
Rh-105	2.2214E+02	2.6318E-07	1.5094E+18	1.8901E+18
Sb-127	3.6836E+02	1.3793E-06	6.5406E+18	3.1477E+18
Sb-129	9.5046E+02	1.6902E-07	7.8903E+17	9.4449E+18
Te-127	3.7135E+02	1.4071E-07	6.6723E+17	3.1492E+18
Te-127m	6.3746E+01	6.7581E-06	3.2046E+19	5.4077E+17
Te-129	1.1011E+03	5.2579E-08	2.4546E+17	1.0112E+19
Te-129m	2.6228E+02	8.7061E-06	4.0643E+19	2.2252E+18
Te-131m	8.0853E+02	1.0139E-06	4.6612E+18	7.0149E+18
Te-132	5.8900E+03	1.9401E-05	8.8512E+19	5.0399E+19
I-131	5.6611E+04	4.5663E-04	2.0992E+21	2.3303E+20
I-132	7.5652E+04	7.3291E-06	3.3437E+19	3.3224E+20
I-133	1.0920E+05	9.6395E-05	4.3647E+20	4.6598E+20
I-134	2.2023E+04	8.2556E-07	3.7102E+18	2.5669E+20
I-135	8.8483E+04	2.5196E-05	1.1239E+20	4.1174E+20
Xe-133	1.5793E+08	8.4373E-01	3.8204E+24	2.2562E+22
Xe-135	5.5546E+07	2.1751E-02	9.7028E+22	8.0323E+21
Cs-134	4.2423E+03	3.2789E-03	1.4736E+22	4.8673E+19
Cs-136	1.1521E+03	1.5720E-05	6.9608E+19	1.3254E+19
Cs-137	3.3648E+03	3.8684E-02	1.7004E+23	3.8603E+19
Ba-139	9.8421E+02	6.0171E-08	2.6069E+17	1.3933E+19
Ba-140	3.0567E+03	4.1753E-05	1.7960E+20	2.5988E+19
La-140	4.9459E+01	8.8983E-08	3.8276E+17	3.0125E+17
La-141	1.8832E+01	3.3300E-09	1.4222E+16	1.9015E+17
La-142	9.9557E+00	6.9547E-10	2.9495E+15	1.3320E+17
Ce-141	7.0503E+01	2.4743E-06	1.0568E+19	5.9828E+17
Ce-143	6.2795E+01	9.4559E-08	3.9822E+17	5.4370E+17
Ce-144	6.0596E+01	1.8999E-05	7.9453E+19	5.1411E+17
Pr-143	2.5525E+01	3.7905E-07	1.5963E+18	2.1634E+17
Nd-147	1.1282E+01	1.3945E-07	5.7129E+17	9.5950E+16
Np-239	8.0815E+02	3.4835E-06	8.7775E+18	6.9380E+18
Pu-238	2.1736E-01	1.2696E-05	3.2126E+19	1.8439E+15
Pu-239	2.0540E-02	3.3046E-04	8.3267E+20	1.7423E+14
Pu-240	3.7620E-02	1.6510E-04	4.1427E+20	3.1915E+14
Pu-241	8.3075E+00	8.0645E-05	2.0152E+20	7.0476E+16
Am-241	5.4565E-03	1.5898E-06	3.9726E+18	4.6282E+13
Cm-242	1.3872E+00	4.1855E-07	1.0416E+18	1.1770E+16
Cm-244	8.0674E-02	9.9717E-07	2.4611E+18	6.8438E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 2.2500 Atmosphere Sump

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Noble gases (atoms)    2.8669E+25  0.0000E+00
Elemental I (atoms)    4.7984E+19  5.5887E+22
Organic I (atoms)      1.6973E+21  0.0000E+00
Aerosols (kg)          4.4883E-02  5.2855E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8929E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5784E-05
Total I (Ci)                                   3.5197E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0208E+22
Elemental I (atoms)    0.0000E+00  1.4758E+18
Organic I (atoms)      0.0000E+00  6.8723E+17
Aerosols (kg)          0.0000E+00  1.4069E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0208E+22
Elemental I (atoms)    0.0000E+00  1.4758E+18
Organic I (atoms)      0.0000E+00  6.8723E+17
Aerosols (kg)          0.0000E+00  1.4069E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0988E+21
Elemental I (atoms)    0.0000E+00  7.3671E+17
Organic I (atoms)      0.0000E+00  3.4325E+17
Aerosols (kg)          0.0000E+00  7.0234E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9960E+16
Elemental I (atoms)    0.0000E+00  5.2921E+12
Organic I (atoms)      0.0000E+00  2.6593E+12
Aerosols (kg)          0.0000E+00  5.0451E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0573E+07
Elemental I (atoms)    0.0000E+00  1.2234E+04
Organic I (atoms)      0.0000E+00  3.7694E+03
Aerosols (kg)          0.0000E+00  1.2078E-17

Environment Integral Nuclide Release:

Time (h) =   2.2500       Ci           kg          Atoms         Bq
Co-58                  1.4626E-03  4.5996E-11  4.7758E+14  5.4115E+07
Co-60                  1.7516E-03  1.5496E-09  1.5553E+16  6.4810E+07
Kr-85                  2.0550E+02  5.2378E-04  3.7109E+21  7.6033E+12
Kr-85m                 2.3436E+03  2.8478E-07  2.0176E+18  8.6712E+13
Kr-87                  2.4344E+03  8.5943E-08  5.9490E+17  9.0073E+13
Kr-88                  5.6024E+03  4.4679E-07  3.0576E+18  2.0729E+14
Rb-86                  6.6426E-02  8.1637E-10  5.7166E+15  2.4577E+09
Sr-89                  1.9835E+00  6.8274E-08  4.6198E+17  7.3390E+10
Sr-90                  3.1228E-01  2.2893E-06  1.5319E+19  1.1554E+10
Sr-91                  2.2377E+00  6.1730E-10  4.0851E+15  8.2795E+10
Sr-92                  1.7675E+00  1.4062E-10  9.2048E+14  6.5399E+10
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Y-90	5.2756E-03	9.6966E-12	6.4883E+13	1.9520E+08
Y-91	2.5919E-02	1.0569E-09	6.9943E+15	9.5902E+08
Y-92	2.3598E-01	2.4524E-11	1.6053E+14	8.7312E+09
Y-93	1.8264E-02	5.4742E-12	3.5448E+13	6.7576E+08
Zr-95	3.6533E-02	1.7005E-09	1.0780E+16	1.3517E+09
Zr-97	3.3255E-02	1.7396E-11	1.0800E+14	1.2304E+09
Nb-95	3.6559E-02	9.3493E-10	5.9266E+15	1.3527E+09
Mo-99	4.7110E-01	9.8224E-10	5.9750E+15	1.7431E+10
Tc-99m	4.2423E-01	8.0679E-11	4.9077E+14	1.5696E+10
Ru-103	4.1207E-01	1.2768E-08	7.4650E+16	1.5246E+10
Ru-105	2.2495E-01	3.3465E-11	1.9194E+14	8.3233E+09
Ru-106	1.7992E-01	5.3778E-08	3.0553E+17	6.6570E+09
Rh-105	2.7048E-01	3.2046E-10	1.8379E+15	1.0008E+10
Sb-127	4.4957E-01	1.6835E-09	7.9827E+15	1.6634E+10
Sb-129	1.2787E+00	2.2738E-10	1.0615E+15	4.7310E+10
Te-127	4.5142E-01	1.7105E-10	8.1109E+14	1.6702E+10
Te-127m	7.7437E-02	8.2095E-09	3.8928E+16	2.8652E+09
Te-129	1.4195E+00	6.7780E-11	3.1642E+14	5.2520E+10
Te-129m	3.1863E-01	1.0577E-08	4.9376E+16	1.1789E+10
Te-131m	9.9648E-01	1.2497E-09	5.7447E+15	3.6870E+10
Te-132	7.1948E+00	2.3699E-08	1.0812E+17	2.6621E+11
I-131	6.5112E+01	5.2520E-07	2.4144E+18	2.4091E+12
I-132	7.7782E+01	7.5355E-09	3.4378E+16	2.8779E+12
I-133	1.2859E+02	1.1351E-07	5.1397E+17	4.7577E+12
I-134	5.0104E+01	1.8782E-09	8.4408E+15	1.8538E+12
I-135	1.1019E+02	3.1376E-08	1.3996E+17	4.0769E+12
Xe-133	2.3728E+04	1.2676E-04	5.7398E+20	8.7793E+14
Xe-135	8.1629E+03	3.1965E-06	1.4259E+19	3.0203E+14
Cs-134	8.7750E+00	6.7822E-06	3.0480E+19	3.2468E+11
Cs-136	2.3874E+00	3.2574E-08	1.4424E+17	8.8332E+10
Cs-137	6.9597E+00	8.0014E-05	3.5172E+20	2.5751E+11
Ba-139	1.6684E+00	1.0200E-10	4.4190E+14	6.1730E+10
Ba-140	3.7184E+00	5.0792E-08	2.1848E+17	1.3758E+11
La-140	7.8563E-02	1.4134E-10	6.0800E+14	2.9068E+09
La-141	2.5599E-02	4.5264E-12	1.9333E+13	9.4715E+08
La-142	1.6261E-02	1.1359E-12	4.8173E+12	6.0164E+08
Ce-141	8.5646E-02	3.0058E-09	1.2838E+16	3.1689E+09
Ce-143	7.7291E-02	1.1639E-10	4.9014E+14	2.8598E+09
Ce-144	7.3615E-02	2.3081E-08	9.6524E+16	2.7238E+09
Pr-143	3.1037E-02	4.6090E-10	1.9410E+15	1.1484E+09
Nd-147	1.3727E-02	1.6968E-10	6.9514E+14	5.0790E+08
Np-239	9.8927E-01	4.2643E-09	1.0745E+16	3.6603E+10
Pu-238	2.6404E-04	1.5423E-08	3.9025E+16	9.7693E+06
Pu-239	2.4950E-05	4.0140E-07	1.0114E+18	9.2314E+05
Pu-240	4.5700E-05	2.0056E-07	5.0324E+17	1.6909E+06
Pu-241	1.0092E-02	9.7966E-08	2.4480E+17	3.7340E+08
Am-241	6.6283E-06	1.9312E-09	4.8257E+15	2.4525E+05
Cm-242	1.6853E-03	5.0850E-10	1.2654E+15	6.2357E+07
Cm-244	9.8001E-05	1.2113E-09	2.9897E+15	3.6260E+06

Environment Transport Group Inventory:

Time (h) = 2.2500	Total Release	Release Rate/s
Noble gases (atoms)	4.3048E+21	5.3145E+17
Elemental I (atoms)	9.8157E+17	1.2118E+14
Organic I (atoms)	3.2808E+17	4.0503E+13
Aerosols (kg)	9.0501E-05	1.1173E-08

Dose Effective (Ci) I-131 (Thyroid)	9.0219E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1231E+02
Total I (Ci)	4.3177E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4527E+21

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Elemental I (atoms)    3.9209E+16  5.3403E+17
Organic I (atoms)      0.0000E+00  1.8181E+17
Aerosols (kg)          4.9347E-04  6.8441E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5814E+21
Elemental I (atoms)    6.5930E+16  3.7449E+17
Organic I (atoms)      0.0000E+00  1.2434E+17
Aerosols (kg)          8.5072E-05  2.0976E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7093E+20
Elemental I (atoms)    1.2989E+16  7.3776E+16
Organic I (atoms)      0.0000E+00  2.2120E+16
Aerosols (kg)          8.8550E-06  1.0911E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5599E+18
Elemental I (atoms)    9.6042E+14  1.1792E+14
Organic I (atoms)      3.3785E+14  1.2786E+13
Aerosols (kg)          8.6798E-08  1.3160E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0790E+18
Elemental I (atoms)    0.0000E+00  4.0964E+14
Organic I (atoms)      0.0000E+00  9.1931E+13
Aerosols (kg)          0.0000E+00  4.1574E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    3.0071E+18  0.0000E+00
Elemental I (atoms)    4.2950E+14  0.0000E+00
Organic I (atoms)      6.8024E+13  0.0000E+00
Aerosols (kg)          4.6109E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4993E-02  2.3605E-01  4.6141E-02
Accumulated dose (rem)  8.3484E-01  9.0145E+00  1.2535E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5196E-03  1.0251E-02  2.0037E-03
Accumulated dose (rem)  7.5166E-02  8.5771E-01  1.1492E-01

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.0442E-03  2.6251E-01  1.7308E-02
Accumulated dose (rem)  8.4279E-02  1.1304E+01  5.7252E-01
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	5.6855E-01	1.7880E-08	1.8565E+17	1.0219E+16
Co-60	6.8109E-01	6.0253E-07	6.0476E+18	1.2237E+16
Kr-85	1.3688E+06	3.4887E+00	2.4717E+25	2.0419E+20
Kr-85m	1.4278E+07	1.7350E-03	1.2292E+22	2.3683E+21
Kr-87	1.1664E+07	4.1178E-04	2.8504E+21	2.5917E+21
Kr-88	3.2371E+07	2.5816E-03	1.7666E+22	5.7222E+21
Rb-86	1.5149E+01	1.8618E-07	1.3037E+18	3.6878E+17
Sr-89	7.7098E+02	2.6538E-05	1.7957E+20	1.3860E+19
Sr-90	1.2143E+02	8.9018E-04	5.9564E+21	2.1816E+18
Sr-91	8.2802E+02	2.2842E-07	1.5116E+18	1.6034E+19
Sr-92	5.7559E+02	4.5793E-08	2.9975E+17	1.3509E+19
Y-90	1.7360E+00	3.1909E-09	2.1351E+16	2.3749E+16
Y-91	1.0028E+01	4.0891E-07	2.7060E+18	1.7925E+17
Y-92	5.1714E+01	5.3743E-09	3.5179E+16	3.1571E+17
Y-93	6.7783E+00	2.0317E-09	1.3156E+16	1.3067E+17
Zr-95	1.4201E+01	6.6104E-07	4.1904E+18	2.5526E+17
Zr-97	1.2577E+01	6.5789E-09	4.0845E+16	2.3565E+17
Nb-95	1.4215E+01	3.6354E-07	2.3045E+18	2.5540E+17
Mo-99	1.8189E+02	3.7924E-07	2.3069E+18	3.3031E+18
Tc-99m	1.6467E+02	3.1317E-08	1.9050E+17	2.9597E+18
Ru-103	1.6015E+02	4.9622E-06	2.9012E+19	2.8794E+18
Ru-105	7.8591E+01	1.1692E-08	6.7055E+16	1.6596E+18
Ru-106	6.9956E+01	2.0910E-05	1.1880E+20	1.2570E+18
Rh-105	1.0490E+02	1.2428E-07	7.1281E+17	1.8908E+18
Sb-127	1.7393E+02	6.5129E-07	3.0883E+18	3.1489E+18
Sb-129	4.4537E+02	7.9199E-08	3.6973E+17	9.4479E+18
Te-127	1.7540E+02	6.6461E-08	3.1515E+17	3.1504E+18
Te-127m	3.0111E+01	3.1922E-06	1.5137E+19	5.4097E+17
Te-129	5.1751E+02	2.4711E-08	1.1536E+17	1.0115E+19
Te-129m	1.2389E+02	4.1123E-06	1.9198E+19	2.2260E+18
Te-131m	3.8147E+02	4.7839E-07	2.1992E+18	7.0175E+18
Te-132	2.7809E+03	9.1601E-06	4.1790E+19	5.0418E+19
I-131	4.5612E+04	3.6792E-04	1.6913E+21	2.3333E+20
I-132	6.0095E+04	5.8220E-06	2.6561E+19	3.3265E+20
I-133	8.7851E+04	7.7552E-05	3.5115E+20	4.6657E+20
I-134	1.7060E+04	6.3950E-07	2.8740E+18	2.5680E+20
I-135	7.0932E+04	2.0198E-05	9.0100E+19	4.1222E+20
Xe-133	1.5788E+08	8.4348E-01	3.8192E+24	2.3613E+22
Xe-135	5.5334E+07	2.1668E-02	9.6657E+22	8.4015E+21
Cs-134	2.0039E+03	1.5488E-03	6.9605E+21	4.8686E+19
Cs-136	5.4415E+02	7.4245E-06	3.2876E+19	1.3258E+19
Cs-137	1.5894E+03	1.8273E-02	8.0321E+22	3.8614E+19
Ba-139	4.5335E+02	2.7716E-08	1.2008E+17	1.3936E+19
Ba-140	1.4437E+03	1.9720E-05	8.4825E+19	2.5997E+19
La-140	2.4584E+01	4.4230E-08	1.9026E+17	3.0141E+17
La-141	8.8174E+00	1.5591E-09	6.6591E+15	1.9021E+17
La-142	4.5981E+00	3.2121E-10	1.3622E+15	1.3323E+17
Ce-141	3.3301E+01	1.1687E-06	4.9917E+18	5.9850E+17
Ce-143	2.9630E+01	4.4618E-08	1.8790E+17	5.4390E+17
Ce-144	2.8623E+01	8.9740E-06	3.7530E+19	5.1430E+17
Pr-143	1.2059E+01	1.7907E-07	7.5413E+17	2.1642E+17
Nd-147	5.3282E+00	6.5862E-08	2.6982E+17	9.5985E+16
Np-239	3.8150E+02	1.6445E-06	4.1436E+18	6.9405E+18
Pu-238	1.0267E-01	5.9971E-06	1.5175E+19	1.8446E+15
Pu-239	9.7023E-03	1.5610E-04	3.9332E+20	1.7429E+14
Pu-240	1.7770E-02	7.7985E-05	1.9568E+20	3.1926E+14
Pu-241	3.9241E+00	3.8093E-05	9.5188E+19	7.0502E+16
Am-241	2.5774E-03	7.5096E-07	1.8765E+18	4.6299E+13
Cm-242	6.5524E-01	1.9770E-07	4.9198E+17	1.1774E+16
Cm-244	3.8106E-02	4.7102E-07	1.1625E+18	6.8464E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	2.8666E+25	0.0000E+00

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Elemental I (atoms)    2.2646E+19  5.5912E+22
Organic I (atoms)      1.6958E+21  0.0000E+00
Aerosols (kg)          2.1201E-02  5.2878E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.3294E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.8792E-05
Total I (Ci)                                   2.8155E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0523E+22
Elemental I (atoms)    0.0000E+00  1.4761E+18
Organic I (atoms)      0.0000E+00  7.0594E+17
Aerosols (kg)          0.0000E+00  1.4073E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0523E+22
Elemental I (atoms)    0.0000E+00  1.4761E+18
Organic I (atoms)      0.0000E+00  7.0594E+17
Aerosols (kg)          0.0000E+00  1.4073E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2572E+21
Elemental I (atoms)    0.0000E+00  7.3690E+17
Organic I (atoms)      0.0000E+00  3.5263E+17
Aerosols (kg)          0.0000E+00  7.0251E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.1861E+16
Elemental I (atoms)    0.0000E+00  5.2943E+12
Organic I (atoms)      0.0000E+00  2.7719E+12
Aerosols (kg)          0.0000E+00  5.0472E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.4660E+07
Elemental I (atoms)    0.0000E+00  1.2754E+04
Organic I (atoms)      0.0000E+00  4.0376E+03
Aerosols (kg)          0.0000E+00  1.2584E-17

Environment Integral Nuclide Release:

Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.5097E-03  4.7476E-11  4.9295E+14  5.5857E+07
Co-60                  1.8080E-03  1.5995E-09  1.6054E+16  6.6897E+07
Kr-85                  2.1597E+02  5.5049E-04  3.9001E+21  7.9911E+12
Kr-85m                 2.4529E+03  2.9806E-07  2.1117E+18  9.0757E+13
Kr-87                  2.5237E+03  8.9096E-08  6.1672E+17  9.3377E+13
Kr-88                  5.8503E+03  4.6656E-07  3.1928E+18  2.1646E+14
Rb-86                  6.7972E-02  8.3537E-10  5.8496E+15  2.5150E+09
Sr-89                  2.0474E+00  7.0472E-08  4.7684E+17  7.5752E+10
Sr-90                  3.2234E-01  2.3630E-06  1.5812E+19  1.1926E+10
Sr-91                  2.3063E+00  6.3621E-10  4.2103E+15  8.5332E+10
Sr-92                  1.8152E+00  1.4441E-10  9.4530E+14  6.7162E+10
Y-90                   5.4892E-03  1.0089E-11  6.7510E+13  2.0310E+08
```

Y-91	2.6759E-02	1.0912E-09	7.2210E+15	9.9010E+08
Y-92	2.4663E-01	2.5631E-11	1.6778E+14	9.1254E+09
Y-93	1.8825E-02	5.6424E-12	3.6537E+13	6.9652E+08
Zr-95	3.7708E-02	1.7553E-09	1.1127E+16	1.3952E+09
Zr-97	3.4296E-02	1.7940E-11	1.1138E+14	1.2690E+09
Nb-95	3.7736E-02	9.6504E-10	6.1175E+15	1.3962E+09
Mo-99	4.8616E-01	1.0136E-09	6.1660E+15	1.7988E+10
Tc-99m	4.3786E-01	8.3272E-11	5.0654E+14	1.6201E+10
Ru-103	4.2533E-01	1.3179E-08	7.7052E+16	1.5737E+10
Ru-105	2.3146E-01	3.4433E-11	1.9749E+14	8.5641E+09
Ru-106	1.8571E-01	5.5510E-08	3.1537E+17	6.8714E+09
Rh-105	2.7917E-01	3.3075E-10	1.8970E+15	1.0329E+10
Sb-127	4.6397E-01	1.7374E-09	8.2384E+15	1.7167E+10
Sb-129	1.3155E+00	2.3394E-10	1.0921E+15	4.8675E+10
Te-127	4.6594E-01	1.7655E-10	8.3719E+14	1.7240E+10
Te-127m	7.9930E-02	8.4738E-09	4.0181E+16	2.9574E+09
Te-129	1.4623E+00	6.9826E-11	3.2597E+14	5.4105E+10
Te-129m	3.2889E-01	1.0917E-08	5.0966E+16	1.2169E+10
Te-131m	1.0281E+00	1.2893E-09	5.9268E+15	3.8039E+10
Te-132	7.4250E+00	2.4457E-08	1.1158E+17	2.7473E+11
I-131	6.6874E+01	5.3942E-07	2.4797E+18	2.4743E+12
I-132	7.9696E+01	7.7209E-09	3.5224E+16	2.9488E+12
I-133	1.3198E+02	1.1651E-07	5.2754E+17	4.8833E+12
I-134	5.0763E+01	1.9029E-09	8.5519E+15	1.8782E+12
I-135	1.1293E+02	3.2156E-08	1.4344E+17	4.1783E+12
Xe-133	2.4935E+04	1.3321E-04	6.0318E+20	9.2260E+14
Xe-135	8.5722E+03	3.3567E-06	1.4974E+19	3.1717E+14
Cs-134	8.9795E+00	6.9403E-06	3.1190E+19	3.3224E+11
Cs-136	2.4429E+00	3.3331E-08	1.4759E+17	9.0387E+10
Cs-137	7.1219E+00	8.1878E-05	3.5991E+20	2.6351E+11
Ba-139	1.7059E+00	1.0429E-10	4.5185E+14	6.3119E+10
Ba-140	3.8379E+00	5.2425E-08	2.2551E+17	1.4200E+11
La-140	8.1915E-02	1.4737E-10	6.3394E+14	3.0309E+09
La-141	2.6329E-02	4.6555E-12	1.9884E+13	9.7416E+08
La-142	1.6641E-02	1.1625E-12	4.9301E+12	6.1573E+08
Ce-141	8.8403E-02	3.1026E-09	1.3251E+16	3.2709E+09
Ce-143	7.9744E-02	1.2008E-10	5.0570E+14	2.9505E+09
Ce-144	7.5985E-02	2.3824E-08	9.9631E+16	2.8114E+09
Pr-143	3.2037E-02	4.7576E-10	2.0036E+15	1.1854E+09
Nd-147	1.4168E-02	1.7514E-10	7.1748E+14	5.2422E+08
Np-239	1.0209E+00	4.4004E-09	1.1088E+16	3.7772E+10
Pu-238	2.7254E-04	1.5920E-08	4.0281E+16	1.0084E+07
Pu-239	2.5753E-05	4.1433E-07	1.0440E+18	9.5287E+05
Pu-240	4.7172E-05	2.0701E-07	5.1944E+17	1.7453E+06
Pu-241	1.0417E-02	1.0112E-07	2.5268E+17	3.8542E+08
Am-241	6.8417E-06	1.9934E-09	4.9811E+15	2.5314E+05
Cm-242	1.7396E-03	5.2487E-10	1.3061E+15	6.4364E+07
Cm-244	1.0116E-04	1.2503E-09	3.0860E+15	3.7428E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	4.5242E+21	5.4640E+17
Elemental I (atoms)	1.0070E+18	1.2162E+14
Organic I (atoms)	3.4252E+17	4.1367E+13
Aerosols (kg)	9.2640E-05	1.1188E-08

Dose Effective (Ci) I-131 (Thyroid)	9.2638E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1529E+02
Total I (Ci)	4.4224E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5678E+21
Elemental I (atoms)	4.0088E+16	5.4599E+17

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Organic I (atoms)      0.0000E+00  1.8920E+17
Aerosols (kg)          5.0431E-04  6.9944E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6693E+21
Elemental I (atoms)    6.7859E+16  3.8544E+17
Organic I (atoms)      0.0000E+00  1.3025E+17
Aerosols (kg)          8.7499E-05  2.1575E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8732E+20
Elemental I (atoms)    1.3440E+16  7.6339E+16
Organic I (atoms)      0.0000E+00  2.3273E+16
Aerosols (kg)          9.1566E-06  1.1282E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.7575E+18
Elemental I (atoms)    9.8314E+14  1.1815E+14
Organic I (atoms)      3.5074E+14  1.2916E+13
Aerosols (kg)          8.8704E-08  1.3180E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1224E+18
Elemental I (atoms)    0.0000E+00  4.1468E+14
Organic I (atoms)      0.0000E+00  9.4787E+13
Aerosols (kg)          0.0000E+00  4.1996E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    3.2219E+18  0.0000E+00
Elemental I (atoms)    4.3706E+14  0.0000E+00
Organic I (atoms)      7.0955E+13  0.0000E+00
Aerosols (kg)          4.6799E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.5620E-02  2.3563E-01  4.6724E-02
Accumulated dose (rem)  8.7046E-01  9.2501E+00  1.3002E+00

Low Population Zone Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5468E-03  1.0232E-02  2.0291E-03
Accumulated dose (rem)  7.6713E-02  8.6794E-01  1.1694E-01

Control Room Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.0386E-03  2.5646E-01  1.7028E-02
Accumulated dose (rem)  8.9318E-02  1.1560E+01  5.8955E-01

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 2.3500	Ci	kg	Atoms	Decay
Co-58	2.6855E-01	8.4456E-09	8.7690E+16	1.0221E+16
Co-60	3.2172E-01	2.8461E-07	2.8566E+18	1.2239E+16
Kr-85	1.3687E+06	3.4887E+00	2.4717E+25	2.1331E+20
Kr-85m	1.4168E+07	1.7216E-03	1.2197E+22	2.4630E+21
Kr-87	1.1350E+07	4.0070E-04	2.7737E+21	2.6683E+21
Kr-88	3.1977E+07	2.5502E-03	1.7452E+22	5.9365E+21
Rb-86	7.1552E+00	8.7937E-08	6.1577E+17	3.6883E+17
Sr-89	3.6416E+02	1.2535E-05	8.4816E+19	1.3862E+19
Sr-90	5.7356E+01	4.2048E-04	2.8135E+21	2.1820E+18
Sr-91	3.8970E+02	1.0750E-07	7.1142E+17	1.6037E+19
Sr-92	2.6843E+02	2.1356E-08	1.3979E+17	1.3510E+19
Y-90	8.5063E-01	1.5635E-09	1.0462E+16	2.3754E+16
Y-91	4.7407E+00	1.9331E-07	1.2793E+18	1.7928E+17
Y-92	2.6834E+01	2.7887E-09	1.8254E+16	3.1587E+17
Y-93	3.1908E+00	9.5638E-10	6.1929E+15	1.3069E+17
Zr-95	6.7077E+00	3.1224E-07	1.9793E+18	2.5530E+17
Zr-97	5.9285E+00	3.1012E-09	1.9254E+16	2.3569E+17
Nb-95	6.7147E+00	1.7172E-07	1.0885E+18	2.5544E+17
Mo-99	8.5871E+01	1.7904E-07	1.0891E+18	3.3037E+18
Tc-99m	7.7772E+01	1.4791E-08	8.9970E+16	2.9602E+18
Ru-103	7.5644E+01	2.3438E-06	1.3704E+19	2.8800E+18
Ru-105	3.6834E+01	5.4796E-09	3.1427E+16	1.6599E+18
Ru-106	3.3044E+01	9.8769E-06	5.6113E+19	1.2572E+18
Rh-105	4.9539E+01	5.8691E-08	3.3662E+17	1.8911E+18
Sb-127	8.2125E+01	3.0753E-07	1.4582E+18	3.1494E+18
Sb-129	2.0869E+02	3.7111E-08	1.7325E+17	9.4493E+18
Te-127	8.2845E+01	3.1391E-08	1.4885E+17	3.1509E+18
Te-127m	1.4223E+01	1.5078E-06	7.1500E+18	5.4107E+17
Te-129	2.4321E+02	1.1613E-08	5.4214E+16	1.0117E+19
Te-129m	5.8517E+01	1.9425E-06	9.0680E+18	2.2264E+18
Te-131m	1.7998E+02	2.2571E-07	1.0376E+18	7.0187E+18
Te-132	1.3130E+03	4.3249E-06	1.9731E+19	5.0426E+19
I-131	4.0414E+04	3.2599E-04	1.4986E+21	2.3360E+20
I-132	5.2479E+04	5.0841E-06	2.3195E+19	3.3300E+20
I-133	7.7724E+04	6.8612E-05	3.1067E+20	4.6709E+20
I-134	1.4532E+04	5.4475E-07	2.4482E+18	2.5690E+20
I-135	6.2531E+04	1.7806E-05	7.9428E+19	4.1263E+20
Xe-133	1.5784E+08	8.4322E-01	3.8180E+24	2.4665E+22
Xe-135	5.5122E+07	2.1585E-02	9.6287E+22	8.7694E+21
Cs-134	9.4653E+02	7.3157E-04	3.2878E+21	4.8692E+19
Cs-136	2.5700E+02	3.5066E-06	1.5527E+19	1.3259E+19
Cs-137	7.5075E+02	8.6311E-03	3.7940E+22	3.8619E+19
Ba-139	2.0883E+02	1.2767E-08	5.5312E+16	1.3938E+19
Ba-140	6.8184E+02	9.3136E-06	4.0063E+19	2.6002E+19
La-140	1.2189E+01	2.1930E-08	9.4333E+16	3.0149E+17
La-141	4.1284E+00	7.2999E-10	3.1178E+15	1.9024E+17
La-142	2.1236E+00	1.4835E-10	6.2914E+14	1.3324E+17
Ce-141	1.5729E+01	5.5204E-07	2.3578E+18	5.9861E+17
Ce-143	1.3981E+01	2.1054E-08	8.8662E+16	5.4400E+17
Ce-144	1.3520E+01	4.2389E-06	1.7727E+19	5.1439E+17
Pr-143	5.6968E+00	8.4599E-08	3.5627E+17	2.1646E+17
Nd-147	2.5164E+00	3.1106E-08	1.2743E+17	9.6002E+16
Np-239	1.8009E+02	7.7629E-07	1.9560E+18	6.9417E+18
Pu-238	4.8496E-02	2.8328E-06	7.1678E+18	1.8449E+15
Pu-239	4.5830E-03	7.3733E-05	1.8579E+20	1.7432E+14
Pu-240	8.3938E-03	3.6836E-05	9.2430E+19	3.1932E+14
Pu-241	1.8536E+00	1.7993E-05	4.4962E+19	7.0514E+16
Am-241	1.2175E-03	3.5472E-07	8.8639E+17	4.6307E+13
Cm-242	3.0950E-01	9.3384E-08	2.3239E+17	1.1777E+16
Cm-244	1.8000E-02	2.2249E-07	5.4912E+17	6.8476E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3500	Atmosphere	Sump
Noble gases (atoms)	2.8663E+25	0.0000E+00
Elemental I (atoms)	1.0688E+19	5.5924E+22

```
Organic I (atoms)      1.6943E+21  0.0000E+00
Aerosols (kg)          1.0014E-02  5.2890E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.0627E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.5475E-05
Total I (Ci)                                   2.4768E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0839E+22
Elemental I (atoms)    0.0000E+00  1.4763E+18
Organic I (atoms)      0.0000E+00  7.2462E+17
Aerosols (kg)          0.0000E+00  1.4074E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0839E+22
Elemental I (atoms)    0.0000E+00  1.4763E+18
Organic I (atoms)      0.0000E+00  7.2462E+17
Aerosols (kg)          0.0000E+00  1.4074E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.4156E+21
Elemental I (atoms)    0.0000E+00  7.3698E+17
Organic I (atoms)      0.0000E+00  3.6200E+17
Aerosols (kg)          0.0000E+00  7.0259E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3762E+16
Elemental I (atoms)    0.0000E+00  5.2953E+12
Organic I (atoms)      0.0000E+00  2.8843E+12
Aerosols (kg)          0.0000E+00  5.0482E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8938E+07
Elemental I (atoms)    0.0000E+00  1.3273E+04
Organic I (atoms)      0.0000E+00  4.3168E+03
Aerosols (kg)          0.0000E+00  1.3090E-17
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3500       Ci           kg         Atoms         Bq
Co-58                  1.5564E-03  4.8946E-11  5.0820E+14  5.7586E+07
Co-60                  1.8640E-03  1.6490E-09  1.6551E+16  6.8968E+07
Kr-85                  2.2677E+02  5.7801E-04  4.0951E+21  8.3906E+12
Kr-85m                 2.5647E+03  3.1164E-07  2.2079E+18  9.4893E+13
Kr-87                  2.6133E+03  9.2258E-08  6.3861E+17  9.6690E+13
Kr-88                  6.1026E+03  4.8668E-07  3.3305E+18  2.2579E+14
Rb-86                  6.9504E-02  8.5420E-10  5.9815E+15  2.5716E+09
Sr-89                  2.1107E+00  7.2653E-08  4.9160E+17  7.8097E+10
Sr-90                  3.3231E-01  2.4362E-06  1.6301E+19  1.2296E+10
Sr-91                  2.3741E+00  6.5492E-10  4.3341E+15  8.7840E+10
Sr-92                  1.8619E+00  1.4813E-10  9.6963E+14  6.8890E+10
Y-90                   5.7063E-03  1.0488E-11  7.0180E+13  2.1113E+08
Y-91                   2.7594E-02  1.1252E-09  7.4462E+15  1.0210E+09
```

Y-92	2.5754E-01	2.6765E-11	1.7520E+14	9.5290E+09
Y-93	1.9380E-02	5.8088E-12	3.7615E+13	7.1707E+08
Zr-95	3.8876E-02	1.8096E-09	1.1471E+16	1.4384E+09
Zr-97	3.5328E-02	1.8480E-11	1.1473E+14	1.3071E+09
Nb-95	3.8904E-02	9.9491E-10	6.3068E+15	1.4395E+09
Mo-99	5.0110E-01	1.0448E-09	6.3555E+15	1.8541E+10
Tc-99m	4.5140E-01	8.5845E-11	5.2219E+14	1.6702E+10
Ru-103	4.3849E-01	1.3586E-08	7.9436E+16	1.6224E+10
Ru-105	2.3787E-01	3.5387E-11	2.0296E+14	8.8012E+09
Ru-106	1.9146E-01	5.7228E-08	3.2513E+17	7.0841E+09
Rh-105	2.8779E-01	3.4096E-10	1.9555E+15	1.0648E+10
Sb-127	4.7826E-01	1.7909E-09	8.4921E+15	1.7696E+10
Sb-129	1.3518E+00	2.4040E-10	1.1222E+15	5.0018E+10
Te-127	4.8036E-01	1.8201E-10	8.6309E+14	1.7773E+10
Te-127m	8.2405E-02	8.7362E-09	4.1425E+16	3.0490E+09
Te-129	1.5046E+00	7.1846E-11	3.3540E+14	5.5671E+10
Te-129m	3.3907E-01	1.1255E-08	5.2543E+16	1.2546E+10
Te-131m	1.0594E+00	1.3285E-09	6.1074E+15	3.9197E+10
Te-132	7.6535E+00	2.5210E-08	1.1501E+17	2.8318E+11
I-131	6.8635E+01	5.5362E-07	2.5450E+18	2.5395E+12
I-132	8.1588E+01	7.9041E-09	3.6060E+16	3.0187E+12
I-133	1.3537E+02	1.1950E-07	5.4108E+17	5.0086E+12
I-134	5.1396E+01	1.9266E-09	8.6586E+15	1.9017E+12
I-135	1.1565E+02	3.2932E-08	1.4690E+17	4.2792E+12
Xe-133	2.6179E+04	1.3986E-04	6.3327E+20	9.6862E+14
Xe-135	8.9929E+03	3.5215E-06	1.5709E+19	3.3274E+14
Cs-134	9.1822E+00	7.0969E-06	3.1895E+19	3.3974E+11
Cs-136	2.4979E+00	3.4082E-08	1.5092E+17	9.2423E+10
Cs-137	7.2827E+00	8.3727E-05	3.6804E+20	2.6946E+11
Ba-139	1.7422E+00	1.0651E-10	4.6147E+14	6.4463E+10
Ba-140	3.9566E+00	5.4045E-08	2.3248E+17	1.4639E+11
La-140	8.5337E-02	1.5353E-10	6.6042E+14	3.1575E+09
La-141	2.7047E-02	4.7826E-12	2.0426E+13	1.0007E+09
La-142	1.7011E-02	1.1883E-12	5.0396E+12	6.2940E+08
Ce-141	9.1139E-02	3.1986E-09	1.3661E+16	3.3721E+09
Ce-143	8.2177E-02	1.2374E-10	5.2112E+14	3.0405E+09
Ce-144	7.8337E-02	2.4561E-08	1.0272E+17	2.8985E+09
Pr-143	3.3030E-02	4.9051E-10	2.0657E+15	1.2221E+09
Nd-147	1.4606E-02	1.8055E-10	7.3965E+14	5.4042E+08
Np-239	1.0522E+00	4.5355E-09	1.1428E+16	3.8931E+10
Pu-238	2.8098E-04	1.6412E-08	4.1528E+16	1.0396E+07
Pu-239	2.6551E-05	4.2716E-07	1.0763E+18	9.8237E+05
Pu-240	4.8632E-05	2.1342E-07	5.3553E+17	1.7994E+06
Pu-241	1.0739E-02	1.0425E-07	2.6050E+17	3.9735E+08
Am-241	7.0535E-06	2.0551E-09	5.1354E+15	2.6098E+05
Cm-242	1.7934E-03	5.4112E-10	1.3466E+15	6.6357E+07
Cm-244	1.0429E-04	1.2891E-09	3.1815E+15	3.8586E+06

Environment Transport Group Inventory:

Time (h) = 2.3500	Total Release	Release Rate/s
Noble gases (atoms)	4.7503E+21	5.6150E+17
Elemental I (atoms)	1.0324E+18	1.2203E+14
Organic I (atoms)	3.5733E+17	4.2238E+13
Aerosols (kg)	9.4760E-05	1.1201E-08

Dose Effective (Ci) I-131 (Thyroid)	9.5053E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1826E+02
Total I (Ci)	4.5264E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6858E+21
Elemental I (atoms)	4.0953E+16	5.5777E+17
Organic I (atoms)	0.0000E+00	1.9675E+17

```
Aerosols (kg)          5.1499E-04  7.1426E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7603E+21
Elemental I (atoms)    6.9795E+16  3.9644E+17
Organic I (atoms)      0.0000E+00  1.3633E+17
Aerosols (kg)          8.9936E-05  2.2176E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.0439E+20
Elemental I (atoms)    1.3897E+16  7.8938E+16
Organic I (atoms)      0.0000E+00  2.4467E+16
Aerosols (kg)          9.4624E-06  1.1659E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9611E+18
Elemental I (atoms)    1.0058E+15  1.1837E+14
Organic I (atoms)      3.6395E+14  1.3050E+13
Aerosols (kg)          9.0594E-08  1.3199E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1671E+18
Elemental I (atoms)    0.0000E+00  4.1969E+14
Organic I (atoms)      0.0000E+00  9.7717E+13
Aerosols (kg)          0.0000E+00  4.2415E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    3.4390E+18  0.0000E+00
Elemental I (atoms)    4.4444E+14  0.0000E+00
Organic I (atoms)      7.3890E+13  0.0000E+00
Aerosols (kg)          4.7470E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4043E+00  7.2354E+00  1.7328E+00
Accumulated dose (rem)  2.2748E+00  1.6485E+01  3.0331E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0985E-02  3.1421E-01  7.5250E-02
Accumulated dose (rem)  1.3770E-01  1.1821E+00  1.9219E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8712E-01  6.6886E+00  4.9645E-01
Accumulated dose (rem)  2.7644E-01  1.8249E+01  1.0860E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	4.7806E-12	1.5034E-19	1.5610E+06	1.0222E+16
Co-60	5.7308E-12	5.0697E-18	5.0884E+07	1.2240E+16
Kr-85	1.3675E+06	3.4855E+00	2.4694E+25	5.1398E+20
Kr-85m	1.0966E+07	1.3325E-03	9.4406E+21	5.2099E+21
Kr-87	4.6134E+06	1.6287E-04	1.1274E+21	4.3129E+21
Kr-88	2.1358E+07	1.7033E-03	1.1656E+22	1.1719E+22
Rb-86	1.2713E-10	1.5625E-18	1.0941E+07	3.6886E+17
Sr-89	6.4809E-09	2.2308E-16	1.5094E+09	1.3864E+19
Sr-90	1.0217E-09	7.4902E-15	5.0119E+10	2.1822E+18
Sr-91	6.1545E-09	1.6978E-18	1.1236E+07	1.6039E+19
Sr-92	3.1354E-09	2.4945E-19	1.6328E+06	1.3511E+19
Y-90	3.2990E-11	6.0637E-20	4.0574E+05	2.3758E+16
Y-91	8.6616E-11	3.5319E-18	2.3373E+07	1.7930E+17
Y-92	1.4212E-09	1.4769E-19	9.6678E+05	3.1598E+17
Y-93	5.0754E-11	1.5213E-20	9.8507E+04	1.3071E+17
Zr-95	1.1940E-10	5.5579E-18	3.5232E+07	2.5533E+17
Zr-97	9.8697E-11	5.1629E-20	3.2053E+05	2.3572E+17
Nb-95	1.1961E-10	3.0589E-18	1.9390E+07	2.5547E+17
Mo-99	1.5034E-09	3.1346E-18	1.9067E+07	3.3040E+18
Tc-99m	1.3778E-09	2.6203E-19	1.5939E+06	2.9605E+18
Ru-103	1.3459E-09	4.1701E-17	2.4381E+08	2.8803E+18
Ru-105	5.0714E-10	7.5445E-20	4.3270E+05	1.6600E+18
Ru-106	5.8855E-10	1.7592E-16	9.9945E+08	1.2573E+18
Rh-105	8.7279E-10	1.0340E-18	5.9306E+06	1.8913E+18
Sb-127	1.4449E-09	5.4107E-18	2.5657E+07	3.1498E+18
Sb-129	2.8528E-09	5.0731E-19	2.3683E+06	9.4501E+18
Te-127	1.4723E-09	5.5788E-19	2.6454E+06	3.1513E+18
Te-127m	2.5336E-10	2.6860E-17	1.2737E+08	5.4112E+17
Te-129	3.6429E-09	1.7395E-19	8.1206E+05	1.0118E+19
Te-129m	1.0419E-09	3.4587E-17	1.6146E+08	2.2266E+18
Te-131m	3.0862E-09	3.8703E-18	1.7792E+07	7.0194E+18
Te-132	2.3050E-08	7.5923E-17	3.4638E+08	5.0432E+19
I-131	3.5525E+04	2.8655E-04	1.3173E+21	2.4146E+20
I-132	2.8231E+04	2.7350E-06	1.2478E+19	3.4106E+20
I-133	6.5051E+04	5.7424E-05	2.6001E+20	4.8183E+20
I-134	3.4860E+03	1.3068E-07	5.8728E+17	2.5849E+20
I-135	4.6508E+04	1.3243E-05	5.9075E+19	4.2383E+20
Xe-133	1.5627E+08	8.3484E-01	3.7801E+24	5.9180E+22
Xe-135	4.8566E+07	1.9018E-02	8.4835E+22	2.0148E+22
Cs-134	1.6860E-08	1.3031E-14	5.8563E+10	4.8696E+19
Cs-136	4.5615E-09	6.2238E-17	2.7559E+08	1.3261E+19
Cs-137	1.3373E-08	1.5375E-13	6.7584E+11	3.8622E+19
Ba-139	1.6224E-09	9.9190E-20	4.2974E+05	1.3938E+19
Ba-140	1.2101E-08	1.6529E-16	7.1099E+08	2.6005E+19
La-140	5.5079E-10	9.9093E-19	4.2625E+06	3.0154E+17
La-141	5.4972E-11	9.7203E-21	4.1516E+04	1.9026E+17
Ce-141	2.7988E-10	9.8226E-18	4.1952E+07	5.9867E+17
Ce-143	2.4057E-10	3.6226E-19	1.5256E+06	5.4405E+17
Ce-144	2.4080E-10	7.5497E-17	3.1573E+08	5.1444E+17
Pr-143	1.0198E-10	1.5145E-18	6.3779E+06	2.1649E+17
Nd-147	4.4633E-11	5.5171E-19	2.2602E+06	9.6012E+16
Np-239	3.1438E-09	1.3551E-17	3.4146E+07	6.9425E+18
Pu-238	8.6389E-13	5.0462E-17	1.2768E+08	1.8451E+15
Pu-239	8.1656E-14	1.3137E-15	3.3102E+09	1.7434E+14
Pu-240	1.4952E-13	6.5618E-16	1.6465E+09	3.1935E+14
Pu-241	3.3018E-11	3.2052E-16	8.0093E+08	7.0522E+16
Am-241	2.1697E-14	6.3218E-18	1.5797E+07	4.6312E+13
Cm-242	5.5117E-12	1.6630E-18	4.1384E+06	1.1778E+16
Cm-244	3.2064E-13	3.9632E-18	9.7816E+06	6.8483E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump
Noble gases (atoms)	2.8582E+25	0.0000E+00
Elemental I (atoms)	1.8552E+08	5.5934E+22
Organic I (atoms)	1.6494E+21	0.0000E+00
Aerosols (kg)	1.7836E-13	5.2899E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         1.7795E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.1508E-05
Total I (Ci)                                   1.7880E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1250E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.3329E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1250E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.3329E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0636E+22
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	6.6700E+17
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0640E+17
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	6.5443E+12
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0644E+08
Elemental I (atoms)	0.0000E+00	3.0192E+04
Organic I (atoms)	0.0000E+00	1.9618E+04
Aerosols (kg)	0.0000E+00	2.9788E-17

Environment Integral Nuclide Release:

Time (h) = 4.0000	Ci	kg	Atoms	Bq
Co-58	2.8443E-03	8.9450E-11	9.2876E+14	1.0524E+08
Co-60	3.4074E-03	3.0144E-09	3.0255E+16	1.2607E+08
Kr-85	7.4969E+02	1.9109E-03	1.3538E+22	2.7739E+13
Kr-85m	7.2463E+03	8.8052E-07	6.2384E+18	2.6811E+14
Kr-87	5.2760E+03	1.8626E-07	1.2893E+18	1.9521E+14
Kr-88	1.5843E+04	1.2635E-06	8.6464E+18	5.8619E+14
Rb-86	1.1120E-01	1.3666E-09	9.5697E+15	4.1143E+09
Sr-89	3.8570E+00	1.3276E-07	8.9832E+17	1.4271E+11
Sr-90	6.0748E-01	4.4535E-06	2.9799E+19	2.2477E+10
Sr-91	4.1362E+00	1.1410E-09	7.5509E+15	1.5304E+11
Sr-92	2.9138E+00	2.3182E-10	1.5174E+15	1.0781E+11
Y-90	1.4009E-02	2.5749E-11	1.7229E+14	5.1833E+08
Y-91	5.0892E-02	2.0752E-09	1.3733E+16	1.8830E+09
Y-92	6.7401E-01	7.0047E-11	4.5851E+14	2.4938E+10
Y-93	3.3858E-02	1.0148E-11	6.5715E+13	1.2528E+09

Zr-95	7.1044E-02	3.3070E-09	2.0963E+16	2.6286E+09
Zr-97	6.2835E-02	3.2869E-11	2.0406E+14	2.3249E+09
Nb-95	7.1118E-02	1.8187E-09	1.1529E+16	2.6314E+09
Mo-99	9.0954E-01	1.8964E-09	1.1536E+16	3.3653E+10
Tc-99m	8.2356E-01	1.5662E-10	9.5273E+14	3.0472E+10
Ru-103	8.0117E-01	2.4824E-08	1.4514E+17	2.9643E+10
Ru-105	3.9378E-01	5.8581E-11	3.3598E+14	1.4570E+10
Ru-106	3.4998E-01	1.0461E-07	5.9432E+17	1.2949E+10
Rh-105	5.2426E-01	6.2112E-10	3.5624E+15	1.9398E+10
Sb-127	8.6985E-01	3.2572E-09	1.5445E+16	3.2184E+10
Sb-129	2.2322E+00	3.9695E-10	1.8531E+15	8.2592E+10
Te-127	8.7737E-01	3.3245E-10	1.5764E+15	3.2463E+10
Te-127m	1.5064E-01	1.5970E-08	7.5728E+16	5.5737E+09
Te-129	2.5789E+00	1.2314E-10	5.7487E+14	9.5420E+10
Te-129m	6.1975E-01	2.0572E-08	9.6039E+16	2.2931E+10
Te-131m	1.9067E+00	2.3911E-09	1.0992E+16	7.0548E+10
Te-132	1.3907E+01	4.5808E-08	2.0899E+17	5.1456E+11
I-131	1.2333E+02	9.9482E-07	4.5732E+18	4.5633E+12
I-132	1.3070E+02	1.2662E-08	5.7769E+16	4.8360E+12
I-133	2.3796E+02	2.1007E-07	9.5116E+17	8.8047E+12
I-134	6.2153E+01	2.3299E-09	1.0471E+16	2.2997E+12
I-135	1.9338E+02	5.5065E-08	2.4564E+17	7.1551E+12
Xe-133	8.6125E+04	4.6012E-04	2.0834E+21	3.1866E+15
Xe-135	2.8229E+04	1.1054E-05	4.9310E+19	1.0445E+15
Cs-134	1.4705E+01	1.1365E-05	5.1076E+19	5.4407E+11
Cs-136	3.9947E+00	5.4505E-08	2.4135E+17	1.4780E+11
Cs-137	1.1663E+01	1.3408E-04	5.8940E+20	4.3153E+11
Ba-139	2.4245E+00	1.4822E-10	6.4217E+14	8.9706E+10
Ba-140	7.2216E+00	9.8644E-08	4.2432E+17	2.6720E+11
La-140	2.2293E-01	4.0108E-10	1.7253E+15	8.2485E+09
La-141	4.4247E-02	7.8239E-12	3.3416E+13	1.6371E+09
La-142	2.4218E-02	1.6918E-12	7.1748E+12	8.9607E+08
Ce-141	1.6654E-01	5.8448E-09	2.4963E+16	6.1620E+09
Ce-143	1.4811E-01	2.2303E-10	9.3924E+14	5.4801E+09
Ce-144	1.4319E-01	4.4896E-08	1.8775E+17	5.2982E+09
Pr-143	6.0484E-02	8.9820E-10	3.7826E+15	2.2379E+09
Nd-147	2.6653E-02	3.2946E-10	1.3497E+15	9.8615E+08
Np-239	1.9076E+00	8.2226E-09	2.0719E+16	7.0580E+10
Pu-238	5.1364E-04	3.0003E-08	7.5916E+16	1.9005E+07
Pu-239	4.8540E-05	7.8093E-07	1.9677E+18	1.7960E+06
Pu-240	8.8901E-05	3.9015E-07	9.7896E+17	3.2893E+06
Pu-241	1.9632E-02	1.9057E-07	4.7621E+17	7.2637E+08
Am-241	1.2896E-05	3.7575E-09	9.3892E+15	4.7716E+05
Cm-242	3.2781E-03	9.8907E-10	2.4613E+15	1.2129E+08
Cm-244	1.9064E-04	2.3564E-09	5.8159E+15	7.0537E+06

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.5687E+22	1.0894E+18
Elemental I (atoms)	1.7548E+18	1.2186E+14
Organic I (atoms)	1.0346E+18	7.1847E+13
Aerosols (kg)	1.5255E-04	1.0594E-08
Dose Effective (Ci) I-131 (Thyroid)		1.6938E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		2.0880E+02
Total I (Ci)		7.4753E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.9659E+21
Elemental I (atoms)	6.3169E+16	8.6035E+17
Organic I (atoms)	0.0000E+00	5.1968E+17
Aerosols (kg)	7.9246E-04	1.0991E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.4277E+21
Elemental I (atoms)	1.2719E+17	7.2244E+17
Organic I (atoms)	0.0000E+00	4.2766E+17
Aerosols (kg)	1.6263E-04	4.0099E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2949E+21
Elemental I (atoms)	3.0600E+16	1.7381E+17
Organic I (atoms)	0.0000E+00	8.8467E+16
Aerosols (kg)	2.0686E-05	2.5488E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4811E+19
Elemental I (atoms)	1.6507E+15	1.2489E+14
Organic I (atoms)	9.6860E+14	1.9157E+13
Aerosols (kg)	1.4211E-07	1.3719E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3285E+18
Elemental I (atoms)	0.0000E+00	5.6265E+14
Organic I (atoms)	0.0000E+00	2.3174E+14
Aerosols (kg)	0.0000E+00	5.3835E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.3293E+19	0.0000E+00
Elemental I (atoms)	6.2806E+14	0.0000E+00
Organic I (atoms)	1.9350E+14	0.0000E+00
Aerosols (kg)	6.3189E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2903E+00	1.3126E+01	3.8143E+00
Accumulated dose (rem)	5.5651E+00	2.9611E+01	6.8474E+00

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4289E-01	5.7000E-01	1.6564E-01
Accumulated dose (rem)	2.8058E-01	1.7521E+00	3.5784E-01

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9248E-01	1.1058E+01	9.4872E-01
Accumulated dose (rem)	7.6892E-01	2.9307E+01	2.0347E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Kr-85	1.3645E+06	3.4779E+00	2.4640E+25	1.2418E+21

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Kr-85m                 5.8926E+06  7.1603E-04  5.0730E+21  9.5618E+21
Kr-87                  5.2021E+05  1.8365E-05  1.2712E+20  5.3121E+21
Kr-88                  8.0280E+06  6.4023E-04  4.3813E+21  1.8977E+22
Sr-90                  2.8999E-15  2.1259E-20  1.4225E+05  2.1822E+18
I-131                  3.4941E+04  2.8184E-04  1.2956E+21  2.6023E+20
I-132                  8.4379E+03  8.1745E-07  3.7294E+18  3.4980E+20
I-133                  5.6807E+04  5.0147E-05  2.2706E+20  5.1424E+20
I-134                  1.4718E+02  5.5172E-09  2.4795E+16  2.5905E+20
I-135                  3.0507E+04  8.6869E-06  3.8751E+19  4.4405E+20
Xe-133                 1.5253E+08  8.1486E-01  3.6896E+24  1.4144E+23
Xe-135                 3.5728E+07  1.3991E-02  6.2410E+22  4.2429E+22
Cs-134                 6.4793E-14  5.0078E-20  2.2506E+05  4.8696E+19
Cs-137                 5.1401E-14  5.9094E-19  2.5976E+06  3.8622E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    2.8402E+25  0.0000E+00
Elemental I (atoms)    6.4331E+02  5.5934E+22
Organic I (atoms)      1.5652E+21  0.0000E+00
Aerosols (kg)          6.7443E-19  5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.6851E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.9691E-05
Total I (Ci)                                   1.3084E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6370E+22
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  2.7491E+18
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6370E+22
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  2.7491E+18
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3232E+22
Elemental I (atoms)    0.0000E+00  7.3706E+17
Organic I (atoms)      0.0000E+00  1.3771E+18
Aerosols (kg)          0.0000E+00  7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5756E+17
Elemental I (atoms)    0.0000E+00  5.2962E+12
Organic I (atoms)      0.0000E+00  1.5066E+13
Aerosols (kg)          0.0000E+00  5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7589E+09
Elemental I (atoms)    0.0000E+00  6.9727E+04
Organic I (atoms)      0.0000E+00  1.0337E+05
```

Aerosols (kg) 0.0000E+00 7.0260E-17

Environment Integral Nuclide Release:

Time (h) = 8.0000	Ci	kg	Atoms	Bq
Co-58	4.2999E-03	1.3523E-10	1.4040E+15	1.5910E+08
Co-60	5.1534E-03	4.5590E-09	4.5758E+16	1.9068E+08
Kr-85	2.9092E+03	7.4152E-03	5.2535E+22	1.0764E+14
Kr-85m	1.9784E+04	2.4040E-06	1.7032E+19	7.3201E+14
Kr-87	7.9505E+03	2.8068E-07	1.9429E+18	2.9417E+14
Kr-88	3.6397E+04	2.9026E-06	1.9864E+19	1.3467E+15
Rb-86	1.5774E-01	1.9386E-09	1.3575E+16	5.8364E+09
Sr-89	5.8297E+00	2.0066E-07	1.3578E+18	2.1570E+11
Sr-90	9.1877E-01	6.7355E-06	4.5069E+19	3.3995E+10
Sr-91	5.8036E+00	1.6010E-09	1.0595E+16	2.1473E+11
Sr-92	3.5643E+00	2.8357E-10	1.8562E+15	1.3188E+11
Y-90	3.1347E-02	5.7617E-11	3.8553E+14	1.1599E+09
Y-91	7.8134E-02	3.1860E-09	2.1084E+16	2.8909E+09
Y-92	1.2794E+00	1.3296E-10	8.7034E+14	4.7338E+10
Y-93	4.7703E-02	1.4298E-11	9.2586E+13	1.7650E+09
Zr-95	1.0740E-01	4.9991E-09	3.1690E+16	3.9736E+09
Zr-97	9.0963E-02	4.7583E-11	2.9541E+14	3.3656E+09
Nb-95	1.0756E-01	2.7507E-09	1.7437E+16	3.9797E+09
Mo-99	1.3597E+00	2.8350E-09	1.7245E+16	5.0310E+10
Tc-99m	1.2401E+00	2.3584E-10	1.4346E+15	4.5883E+10
Ru-103	1.2107E+00	3.7514E-08	2.1933E+17	4.4797E+10
Ru-105	5.1491E-01	7.6601E-11	4.3933E+14	1.9052E+10
Ru-106	5.2928E-01	1.5820E-07	8.9878E+17	1.9583E+10
Rh-105	7.8586E-01	9.3105E-10	5.3399E+15	2.9077E+10
Sb-127	1.3047E+00	4.8855E-09	2.3166E+16	4.8273E+10
Sb-129	2.9093E+00	5.1735E-10	2.4152E+15	1.0764E+11
Te-127	1.3244E+00	5.0184E-10	2.3797E+15	4.9003E+10
Te-127m	2.2783E-01	2.4154E-08	1.1453E+17	8.4299E+09
Te-129	3.5052E+00	1.6737E-10	7.8135E+14	1.2969E+11
Te-129m	9.3698E-01	3.1103E-08	1.4520E+17	3.4668E+10
Te-131m	2.8120E+00	3.5265E-09	1.6211E+16	1.0405E+11
Te-132	2.0828E+01	6.8605E-08	3.1299E+17	7.7063E+11
I-131	2.2627E+02	1.8251E-06	8.3903E+18	8.3721E+12
I-132	1.8482E+02	1.7905E-08	8.1686E+16	6.8382E+12
I-133	4.1599E+02	3.6722E-07	1.6627E+18	1.5392E+13
I-134	6.5330E+01	2.4490E-09	1.1006E+16	2.4172E+12
I-135	3.0483E+02	8.6801E-08	3.8720E+17	1.1279E+13
Xe-133	3.2991E+05	1.7625E-03	7.9806E+21	1.2207E+16
Xe-135	9.3105E+04	3.6458E-05	1.6264E+20	3.4449E+15
Cs-134	2.0892E+01	1.6148E-05	7.2570E+19	7.7302E+11
Cs-136	5.6629E+00	7.7266E-08	3.4214E+17	2.0953E+11
Cs-137	1.6571E+01	1.9052E-04	8.3746E+20	6.1314E+11
Ba-139	2.6724E+00	1.6338E-10	7.0783E+14	9.8878E+10
Ba-140	1.0895E+01	1.4882E-07	6.4014E+17	4.0310E+11
La-140	5.2477E-01	9.4413E-10	4.0612E+15	1.9417E+10
La-141	5.6995E-02	1.0078E-11	4.3044E+13	2.1088E+09
La-142	2.7144E-02	1.8962E-12	8.0417E+12	1.0043E+09
Ce-141	2.5169E-01	8.8331E-09	3.7726E+16	9.3124E+09
Ce-143	2.1892E-01	3.2967E-10	1.3883E+15	8.1002E+09
Ce-144	2.1655E-01	6.7894E-08	2.8393E+17	8.0122E+09
Pr-143	9.1758E-02	1.3626E-09	5.7384E+15	3.3950E+09
Nd-147	4.0192E-02	4.9682E-10	2.0353E+15	1.4871E+09
Np-239	2.8463E+00	1.2269E-08	3.0914E+16	1.0531E+11
Pu-238	7.7684E-04	4.5377E-08	1.1482E+17	2.8743E+07
Pu-239	7.3423E-05	1.1813E-06	2.9765E+18	2.7167E+06
Pu-240	1.3446E-04	5.9007E-07	1.4806E+18	4.9749E+06
Pu-241	2.9691E-02	2.8823E-07	7.2023E+17	1.0986E+09
Am-241	1.9511E-05	5.6847E-09	1.4205E+16	7.2190E+05
Cm-242	4.9569E-03	1.4956E-09	3.7218E+15	1.8340E+08
Cm-244	2.8833E-04	3.5639E-09	8.7961E+15	1.0668E+07

Environment Transport Group Inventory:

```
                          Total      Release
Time (h) =   8.0000     Release     Rate/s
Noble gases (atoms)    6.0717E+22  2.1082E+18
Elemental I (atoms)    2.6085E+18  9.0571E+13
Organic I (atoms)      3.6144E+18  1.2550E+14
Aerosols (kg)          2.1733E-04  7.5461E-09
Dose Effective (Ci) I-131 (Thyroid)            3.0551E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      3.7060E+02
Total I  (Ci)                                  1.1972E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7437E+22
Elemental I (atoms)    8.7008E+16  1.1850E+18
Organic I (atoms)      0.0000E+00  1.6328E+18
Aerosols (kg)          1.1002E-03  1.5259E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6192E+22
Elemental I (atoms)    1.8715E+17  1.0630E+18
Organic I (atoms)      0.0000E+00  1.5597E+18
Aerosols (kg)          2.4072E-04  5.9354E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.0946E+21
Elemental I (atoms)    6.3969E+16  3.6334E+17
Organic I (atoms)      0.0000E+00  4.2636E+17
Aerosols (kg)          4.3740E-05  5.3895E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5363E+19
Elemental I (atoms)    2.4127E+15  1.3259E+14
Organic I (atoms)      3.2713E+15  4.2417E+13
Aerosols (kg)          1.9986E-07  1.4302E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2228E+19
Elemental I (atoms)    0.0000E+00  7.3156E+14
Organic I (atoms)      0.0000E+00  7.4217E+14
Aerosols (kg)          0.0000E+00  6.6635E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    5.8977E+19  0.0000E+00
Elemental I (atoms)    8.3958E+14  0.0000E+00
Organic I (atoms)      6.8904E+14  0.0000E+00
Aerosols (kg)          7.9638E-08  0.0000E+00

Exclusion Area Boundary Doses:
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Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.5311E+00  3.6046E+01  6.6940E+00
Accumulated dose (rem)  1.1096E+01  6.5657E+01  1.3541E+01

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5470E-01  5.1847E-01  1.7142E-01
Accumulated dose (rem)  4.3528E-01  2.2706E+00  5.2926E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1331E-01  1.3043E+01  8.4178E-01
Accumulated dose (rem)  1.1822E+00  4.2350E+01  2.8765E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
Kr-85                  1.3524E+06  3.4470E+00  2.4422E+25  4.1363E+21
Kr-85m                 4.9132E+05  5.9703E-05  4.2299E+20  1.4195E+22
Kr-87                  8.4103E+01  2.9691E-09  2.0552E+16  5.4391E+21
Kr-88                  1.6026E+05  1.2781E-05  8.7464E+19  2.3261E+22
Sr-90                  2.8997E-15  2.1258E-20  1.4224E+05  2.1822E+18
I-131                  3.2700E+04  2.6376E-04  1.2125E+21  3.3227E+20
I-132                  6.7341E+01  6.5240E-09  2.9764E+16  3.5349E+20
I-133                  3.3038E+04  2.9164E-05  1.3205E+20  6.0768E+20
I-134                  4.6767E-04  1.7531E-14  7.8786E+10  2.5907E+20
I-135                  5.6481E+03  1.6083E-06  7.1744E+18  4.7545E+20
Xe-133                 1.3844E+08  7.3961E-01  3.3489E+24  4.5119E+23
Xe-135                 1.0462E+07  4.0969E-03  1.8276E+22  8.6265E+22
Cs-134                 6.4753E-14  5.0047E-20  2.2492E+05  4.8696E+19
Cs-137                 5.1399E-14  5.9092E-19  2.5975E+06  3.8622E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    2.7790E+25  0.0000E+00
Elemental I (atoms)    5.6145E+02  5.5934E+22
Organic I (atoms)      1.3518E+21  0.0000E+00
Aerosols (kg)          6.7396E-19  5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4261E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.5614E-05
Total I (Ci)                                   7.1453E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4545E+23
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  7.8720E+18
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4545E+23
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  7.8720E+18
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.2915E+22
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Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	3.9459E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.5375E+17
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	4.5891E+13
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9451E+10
Elemental I (atoms)	0.0000E+00	2.1379E+05
Organic I (atoms)	0.0000E+00	1.0169E+06
Aerosols (kg)	0.0000E+00	2.3207E-16

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	4.9106E-03	1.5443E-10	1.6035E+15	1.8169E+08
Co-60	5.8876E-03	5.2085E-09	5.2277E+16	2.1784E+08
Kr-85	1.4421E+04	3.6757E-02	2.6042E+23	5.3357E+14
Kr-85m	3.7019E+04	4.4983E-06	3.1870E+19	1.3697E+15
Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1074E+14
Kr-88	5.1988E+04	4.1460E-06	2.8373E+19	1.9236E+15
Rb-86	1.7720E-01	2.1778E-09	1.5250E+16	6.5563E+09
Sr-89	6.6566E+00	2.2912E-07	1.5504E+18	2.4629E+11
Sr-90	1.0497E+00	7.6952E-06	5.1491E+19	3.8838E+10
Sr-91	6.2740E+00	1.7308E-09	1.1454E+16	2.3214E+11
Sr-92	3.6408E+00	2.8965E-10	1.8960E+15	1.3471E+11
Y-90	4.6078E-02	8.4692E-11	5.6669E+14	1.7049E+09
Y-91	9.0212E-02	3.6785E-09	2.4344E+16	3.3379E+09
Y-92	1.4526E+00	1.5096E-10	9.8814E+14	5.3745E+10
Y-93	5.1698E-02	1.5496E-11	1.0034E+14	1.9128E+09
Zr-95	1.2264E-01	5.7088E-09	3.6189E+16	4.5378E+09
Zr-97	1.0037E-01	5.2502E-11	3.2596E+14	3.7136E+09
Nb-95	1.2288E-01	3.1426E-09	1.9921E+16	4.5467E+09
Mo-99	1.5380E+00	3.2068E-09	1.9507E+16	5.6906E+10
Tc-99m	1.4093E+00	2.6802E-10	1.6303E+15	5.2144E+10
Ru-103	1.3822E+00	4.2828E-08	2.5040E+17	5.1142E+10
Ru-105	5.3749E-01	7.9960E-11	4.5860E+14	1.9887E+10
Ru-106	6.0464E-01	1.8073E-07	1.0268E+18	2.2372E+10
Rh-105	8.8758E-01	1.0516E-09	6.0311E+15	3.2840E+10
Sb-127	1.4798E+00	5.5414E-09	2.6276E+16	5.4754E+10
Sb-129	3.0329E+00	5.3933E-10	2.5178E+15	1.1222E+11
Te-127	1.5094E+00	5.7196E-10	2.7121E+15	5.5850E+10
Te-127m	2.6030E-01	2.7596E-08	1.3085E+17	9.6310E+09
Te-129	3.7347E+00	1.7833E-10	8.3251E+14	1.3818E+11
Te-129m	1.0699E+00	3.5516E-08	1.6580E+17	3.9587E+10
Te-131m	3.1460E+00	3.9453E-09	1.8137E+16	1.1640E+11
Te-132	2.3594E+01	7.7717E-08	3.5456E+17	8.7299E+11
I-131	5.3291E+02	4.2986E-06	1.9761E+19	1.9718E+13
I-132	2.1589E+02	2.0915E-08	9.5420E+16	7.9879E+12
I-133	8.1153E+02	7.1639E-07	3.2438E+18	3.0027E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.3690E+02	1.2441E-07	5.5496E+17	1.6165E+13
Xe-133	1.5581E+06	8.3242E-03	3.7691E+22	5.7651E+16
Xe-135	2.6097E+05	1.0219E-04	4.5586E+20	9.6559E+15
Cs-134	2.3502E+01	1.8165E-05	8.1634E+19	8.6957E+11
Cs-136	6.3576E+00	8.6744E-08	3.8411E+17	2.3523E+11
Cs-137	1.8642E+01	2.1432E-04	9.4208E+20	6.8974E+11

Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2419E+01	1.6964E-07	7.2972E+17	4.5951E+11
La-140	7.8314E-01	1.4090E-09	6.0607E+15	2.8976E+10
La-141	5.9153E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8733E-01	1.0084E-08	4.3069E+16	1.0631E+10
Ce-143	2.4536E-01	3.6947E-10	1.5559E+15	9.0782E+09
Ce-144	2.4738E-01	7.7560E-08	3.2436E+17	9.1529E+09
Pr-143	1.0509E-01	1.5606E-09	6.5719E+15	3.8882E+09
Nd-147	4.5801E-02	5.6615E-10	2.3193E+15	1.6946E+09
Np-239	3.2143E+00	1.3855E-08	3.4912E+16	1.1893E+11
Pu-238	8.8754E-04	5.1843E-08	1.3118E+17	3.2839E+07
Pu-239	8.3895E-05	1.3497E-06	3.4010E+18	3.1041E+06
Pu-240	1.5362E-04	6.7415E-07	1.6916E+18	5.6838E+06
Pu-241	3.3922E-02	3.2930E-07	8.2285E+17	1.2551E+09
Am-241	2.2297E-05	6.4964E-09	1.6233E+16	8.2498E+05
Cm-242	5.6621E-03	1.7084E-09	4.2513E+15	2.0950E+08
Cm-244	3.2941E-04	4.0717E-09	1.0049E+16	1.2188E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	2.9862E+23	3.4563E+18	
Elemental I (atoms)	2.9960E+18	3.4676E+13	
Organic I (atoms)	1.5859E+19	1.8356E+14	
Aerosols (kg)	2.4464E-04	2.8315E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.8199E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			7.9508E+02
Total I (Ci)			2.0627E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2419E+23
Elemental I (atoms)	1.0029E+17	1.3176E+18
Organic I (atoms)	0.0000E+00	6.6390E+18
Aerosols (kg)	1.2367E-03	1.7153E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2397E+23
Elemental I (atoms)	2.0808E+17	1.1487E+18
Organic I (atoms)	0.0000E+00	6.6181E+18
Aerosols (kg)	2.6286E-04	6.4815E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0605E+22
Elemental I (atoms)	1.0562E+17	5.3386E+17
Organic I (atoms)	0.0000E+00	2.6796E+18
Aerosols (kg)	6.7390E-05	8.3036E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4616E+20
Elemental I (atoms)	2.5595E+15	1.3407E+14
Organic I (atoms)	7.9227E+15	8.9401E+13
Aerosols (kg)	2.1017E-07	1.4407E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2152E+19
Elemental I (atoms)	0.0000E+00	7.6410E+14
Organic I (atoms)	0.0000E+00	1.7732E+15
Aerosols (kg)	0.0000E+00	6.8921E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.7385E+20	0.0000E+00
Elemental I (atoms)	8.9043E+14	0.0000E+00
Organic I (atoms)	1.8109E+15	0.0000E+00
Aerosols (kg)	8.3313E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6437E+00	2.2162E+01	2.3244E+00
Accumulated dose (rem)	1.2740E+01	8.7819E+01	1.5866E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7681E-02	1.5666E-01	2.2493E-02
Accumulated dose (rem)	4.5296E-01	2.4273E+00	5.5175E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.8826E-02	3.1536E+00	1.4572E-01
Accumulated dose (rem)	1.2311E+00	4.5503E+01	3.0222E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Kr-85	1.3432E+06	3.4237E+00	2.4256E+25	8.4444E+21
Kr-85m	1.1908E+04	1.4470E-06	1.0252E+19	1.4607E+22
Kr-87	1.7403E-04	6.1441E-15	4.2529E+10	5.4391E+21
Kr-88	4.5503E+02	3.6289E-08	2.4833E+17	2.3348E+22
Sr-90	2.8996E-15	2.1257E-20	1.4224E+05	2.1822E+18
I-131	2.9801E+04	2.4038E-04	1.1050E+21	4.3208E+20
I-132	4.8331E-02	4.6822E-12	2.1361E+13	3.5352E+20
I-133	1.4750E+04	1.3021E-05	5.8957E+19	6.8017E+20
I-135	4.5293E+02	1.2897E-07	5.7532E+17	4.8203E+20
Xe-133	1.2050E+08	6.4378E-01	2.9150E+24	8.6437E+23
Xe-135	1.6681E+06	6.5321E-04	2.9139E+21	1.0158E+23
Cs-134	6.4694E-14	5.0002E-20	2.2472E+05	4.8696E+19
Cs-137	5.1397E-14	5.9089E-19	2.5974E+06	3.8622E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	2.7174E+25	0.0000E+00
Elemental I (atoms)	4.8718E+02	5.5934E+22
Organic I (atoms)	1.1646E+21	0.0000E+00
Aerosols (kg)	6.7349E-19	5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		1.1995E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.2558E-05
Total I (Ci)		4.5004E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported

Noble gases (atoms)	0.0000E+00	2.1836E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.1201E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1836E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.1201E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0916E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	5.6009E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7286E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	8.5838E+13
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.0693E+10
Elemental I (atoms)	0.0000E+00	4.0211E+05
Organic I (atoms)	0.0000E+00	3.8058E+06
Aerosols (kg)	0.0000E+00	4.7462E-16

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	4.9180E-03	1.5466E-10	1.6059E+15	1.8197E+08
Co-60	5.8965E-03	5.2164E-09	5.2357E+16	2.1817E+08
Kr-85	2.3351E+04	5.9519E-02	4.2168E+23	8.6400E+14
Kr-85m	3.7807E+04	4.5941E-06	3.2549E+19	1.3989E+15
Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1075E+14
Kr-88	5.2147E+04	4.1587E-06	2.8459E+19	1.9294E+15
Rb-86	1.7743E-01	2.1806E-09	1.5270E+16	6.5650E+09
Sr-89	6.6665E+00	2.2947E-07	1.5527E+18	2.4666E+11
Sr-90	1.0513E+00	7.7069E-06	5.1569E+19	3.8897E+10
Sr-91	6.2754E+00	1.7312E-09	1.1456E+16	2.3219E+11
Sr-92	3.6408E+00	2.8966E-10	1.8960E+15	1.3471E+11
Y-90	4.6534E-02	8.5530E-11	5.7230E+14	1.7217E+09
Y-91	9.0370E-02	3.6850E-09	2.4386E+16	3.3437E+09
Y-92	1.4527E+00	1.5097E-10	9.8822E+14	5.3749E+10
Y-93	5.1711E-02	1.5499E-11	1.0037E+14	1.9133E+09
Zr-95	1.2283E-01	5.7174E-09	3.6243E+16	4.5446E+09
Zr-97	1.0042E-01	5.2529E-11	3.2612E+14	3.7155E+09
Nb-95	1.2307E-01	3.1474E-09	1.9951E+16	4.5536E+09
Mo-99	1.5398E+00	3.2104E-09	1.9529E+16	5.6972E+10
Tc-99m	1.4111E+00	2.6836E-10	1.6324E+15	5.2210E+10
Ru-103	1.3843E+00	4.2892E-08	2.5078E+17	5.1219E+10
Ru-105	5.3750E-01	7.9962E-11	4.5861E+14	1.9888E+10
Ru-106	6.0556E-01	1.8100E-07	1.0283E+18	2.2406E+10

Rh-105	8.8844E-01	1.0526E-09	6.0370E+15	3.2872E+10
Sb-127	1.4817E+00	5.5483E-09	2.6309E+16	5.4822E+10
Sb-129	3.0330E+00	5.3935E-10	2.5178E+15	1.1222E+11
Te-127	1.5116E+00	5.7275E-10	2.7159E+15	5.5927E+10
Te-127m	2.6069E-01	2.7637E-08	1.3105E+17	9.6456E+09
Te-129	3.7362E+00	1.7840E-10	8.3284E+14	1.3824E+11
Te-129m	1.0715E+00	3.5569E-08	1.6605E+17	3.9646E+10
Te-131m	3.1486E+00	3.9486E-09	1.8152E+16	1.1650E+11
Te-132	2.3623E+01	7.7810E-08	3.5499E+17	8.7404E+11
I-131	7.3977E+02	5.9671E-06	2.7431E+19	2.7372E+13
I-132	2.1649E+02	2.0973E-08	9.5685E+16	8.0101E+12
I-133	9.5951E+02	8.4702E-07	3.8352E+18	3.5502E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.4986E+02	1.2810E-07	5.7142E+17	1.6645E+13
Xe-133	2.4122E+06	1.2887E-02	5.8352E+22	8.9253E+16
Xe-135	2.9149E+05	1.1414E-04	5.0917E+20	1.0785E+16
Cs-134	2.3534E+01	1.8190E-05	8.1746E+19	8.7076E+11
Cs-136	6.3658E+00	8.6857E-08	3.8461E+17	2.3554E+11
Cs-137	1.8667E+01	2.1461E-04	9.4338E+20	6.9070E+11
Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2437E+01	1.6988E-07	7.3076E+17	4.6017E+11
La-140	7.9067E-01	1.4225E-09	6.1189E+15	2.9255E+10
La-141	5.9154E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8775E-01	1.0099E-08	4.3133E+16	1.0647E+10
Ce-143	2.4557E-01	3.6979E-10	1.5573E+15	9.0861E+09
Ce-144	2.4775E-01	7.7677E-08	3.2485E+17	9.1668E+09
Pr-143	1.0525E-01	1.5630E-09	6.5824E+15	3.8943E+09
Nd-147	4.5866E-02	5.6695E-10	2.3226E+15	1.6970E+09
Np-239	3.2178E+00	1.3870E-08	3.4950E+16	1.1906E+11
Pu-238	8.8889E-04	5.1922E-08	1.3138E+17	3.2889E+07
Pu-239	8.4023E-05	1.3518E-06	3.4062E+18	3.1089E+06
Pu-240	1.5385E-04	6.7517E-07	1.6942E+18	5.6924E+06
Pu-241	3.3973E-02	3.2980E-07	8.2410E+17	1.2570E+09
Am-241	2.2331E-05	6.5064E-09	1.6258E+16	8.2625E+05
Cm-242	5.6707E-03	1.7110E-09	4.2578E+15	2.0982E+08
Cm-244	3.2991E-04	4.0779E-09	1.0065E+16	1.2207E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.8061E+23	2.7813E+18
Elemental I (atoms)	3.0036E+18	1.7382E+13
Organic I (atoms)	2.4125E+19	1.3961E+14
Aerosols (kg)	2.4498E-04	1.4177E-09
Dose Effective (Ci) I-131 (Thyroid)		9.1386E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.0426E+03
Total I (Ci)		2.4311E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9713E+23
Elemental I (atoms)	1.0047E+17	1.3185E+18
Organic I (atoms)	0.0000E+00	9.9696E+18
Aerosols (kg)	1.2380E-03	1.7170E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9693E+23
Elemental I (atoms)	2.0814E+17	1.1488E+18
Organic I (atoms)	0.0000E+00	9.9494E+18
Aerosols (kg)	2.6291E-04	6.4826E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6807E+22
Elemental I (atoms)	1.0873E+17	5.4041E+17
Organic I (atoms)	0.0000E+00	4.3330E+18
Aerosols (kg)	6.8669E-05	8.4612E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9195E+20
Elemental I (atoms)	2.5614E+15	1.3409E+14
Organic I (atoms)	9.9927E+15	1.1031E+14
Aerosols (kg)	2.1026E-07	1.4407E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2201E+19
Elemental I (atoms)	0.0000E+00	7.6452E+14
Organic I (atoms)	0.0000E+00	2.2320E+15
Aerosols (kg)	0.0000E+00	6.8940E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.3242E+20	0.0000E+00
Elemental I (atoms)	8.9099E+14	0.0000E+00
Organic I (atoms)	2.3157E+15	0.0000E+00
Aerosols (kg)	8.3338E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1497E+00	1.9049E+01	1.7319E+00
Accumulated dose (rem)	1.3890E+01	1.0687E+02	1.7598E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2367E-02	1.3465E-01	1.6483E-02
Accumulated dose (rem)	4.6533E-01	2.5619E+00	5.6823E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1519E-02	2.5364E+00	1.0905E-01
Accumulated dose (rem)	1.2626E+00	4.8040E+01	3.1313E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Kr-85	1.3341E+06	3.4005E+00	2.4092E+25	1.2723E+22
Kr-85m	2.8860E+02	3.5069E-08	2.4846E+17	1.4617E+22
Kr-87	3.6013E-10	1.2714E-20	8.8005E+04	5.4391E+21
Kr-88	1.2920E+00	1.0303E-10	7.0509E+14	2.3348E+22
Sr-90	2.8994E-15	2.1256E-20	1.4223E+05	2.1822E+18
I-131	2.7159E+04	2.1907E-04	1.0071E+21	5.2305E+20
I-132	3.4687E-05	3.3604E-15	1.5331E+10	3.5352E+20
I-133	6.5852E+03	5.8132E-06	2.6322E+19	7.1253E+20
I-135	3.6321E+01	1.0342E-08	4.6136E+16	4.8256E+20

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Xe-133                 1.0489E+08  5.6037E-01  2.5373E+24  1.2240E+24
Xe-135                 2.6588E+05  1.0412E-04  4.6444E+20  1.0402E+23
Cs-134                 6.4635E-14  4.9956E-20  2.2451E+05  4.8696E+19
Cs-137                 5.1393E-14  5.9085E-19  2.5972E+06  3.8622E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =  72.0000    Atmosphere     Sump
Noble gases (atoms)    2.6630E+25  0.0000E+00
Elemental I (atoms)    4.3530E+02  5.5934E+22
Organic I (atoms)      1.0334E+21  0.0000E+00
Aerosols (kg)          6.7311E-19  5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0504E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.0751E-05
Total I (Ci)                                   3.3780E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8972E+23
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  1.4115E+19
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8972E+23
Elemental I (atoms)    0.0000E+00  1.4765E+18
Organic I (atoms)      0.0000E+00  1.4115E+19
Aerosols (kg)          0.0000E+00  1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4464E+23
Elemental I (atoms)    0.0000E+00  7.3706E+17
Organic I (atoms)      0.0000E+00  7.0496E+18
Aerosols (kg)          0.0000E+00  7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5850E+18
Elemental I (atoms)    0.0000E+00  5.2962E+12
Organic I (atoms)      0.0000E+00  1.2081E+14
Aerosols (kg)          0.0000E+00  5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8230E+11
Elemental I (atoms)    0.0000E+00  5.6812E+05
Organic I (atoms)      0.0000E+00  7.9527E+06
Aerosols (kg)          0.0000E+00  7.1701E-16

Environment Integral Nuclide Release:

Time (h) =  72.0000       Ci           kg         Atoms         Bq
Co-58                  4.9185E-03  1.5468E-10  1.6060E+15  1.8198E+08
Co-60                  5.8972E-03  5.2169E-09  5.2362E+16  2.1819E+08
Kr-85                  3.2238E+04  8.2170E-02  5.8216E+23  1.1928E+15
Kr-85m                 3.7826E+04  4.5964E-06  3.2565E+19  1.3996E+15
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Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1075E+14
Kr-88	5.2147E+04	4.1587E-06	2.8460E+19	1.9295E+15
Rb-86	1.7745E-01	2.1808E-09	1.5271E+16	6.5656E+09
Sr-89	6.6672E+00	2.2949E-07	1.5528E+18	2.4669E+11
Sr-90	1.0514E+00	7.7077E-06	5.1574E+19	3.8901E+10
Sr-91	6.2755E+00	1.7312E-09	1.1456E+16	2.3219E+11
Sr-92	3.6408E+00	2.8966E-10	1.8960E+15	1.3471E+11
Y-90	4.6583E-02	8.5621E-11	5.7291E+14	1.7236E+09
Y-91	9.0381E-02	3.6854E-09	2.4389E+16	3.3441E+09
Y-92	1.4527E+00	1.5097E-10	9.8822E+14	5.3749E+10
Y-93	5.1711E-02	1.5500E-11	1.0037E+14	1.9133E+09
Zr-95	1.2284E-01	5.7180E-09	3.6247E+16	4.5451E+09
Zr-97	1.0042E-01	5.2530E-11	3.2613E+14	3.7155E+09
Nb-95	1.2308E-01	3.1477E-09	1.9953E+16	4.5541E+09
Mo-99	1.5399E+00	3.2106E-09	1.9530E+16	5.6975E+10
Tc-99m	1.4112E+00	2.6838E-10	1.6325E+15	5.2214E+10
Ru-103	1.3844E+00	4.2896E-08	2.5080E+17	5.1224E+10
Ru-105	5.3750E-01	7.9962E-11	4.5861E+14	1.9888E+10
Ru-106	6.0562E-01	1.8102E-07	1.0284E+18	2.2408E+10
Rh-105	8.8848E-01	1.0526E-09	6.0372E+15	3.2874E+10
Sb-127	1.4818E+00	5.5487E-09	2.6311E+16	5.4826E+10
Sb-129	3.0330E+00	5.3935E-10	2.5178E+15	1.1222E+11
Te-127	1.5117E+00	5.7280E-10	2.7161E+15	5.5932E+10
Te-127m	2.6072E-01	2.7640E-08	1.3107E+17	9.6466E+09
Te-129	3.7363E+00	1.7841E-10	8.3286E+14	1.3824E+11
Te-129m	1.0716E+00	3.5572E-08	1.6606E+17	3.9650E+10
Te-131m	3.1487E+00	3.9487E-09	1.8152E+16	1.1650E+11
Te-132	2.3624E+01	7.7815E-08	3.5501E+17	8.7409E+11
I-131	9.2838E+02	7.4885E-06	3.4425E+19	3.4350E+13
I-132	2.1654E+02	2.0978E-08	9.5705E+16	8.0118E+12
I-133	1.0256E+03	9.0538E-07	4.0995E+18	3.7948E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.5090E+02	1.2839E-07	5.7274E+17	1.6683E+13
Xe-133	3.1571E+06	1.6867E-02	7.6371E+22	1.1681E+17
Xe-135	2.9637E+05	1.1605E-04	5.1769E+20	1.0966E+16
Cs-134	2.3536E+01	1.8191E-05	8.1754E+19	8.7085E+11
Cs-136	6.3664E+00	8.6865E-08	3.8464E+17	2.3556E+11
Cs-137	1.8669E+01	2.1463E-04	9.4347E+20	6.9076E+11
Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2438E+01	1.6990E-07	7.3083E+17	4.6021E+11
La-140	7.9141E-01	1.4238E-09	6.1247E+15	2.9282E+10
La-141	5.9154E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8778E-01	1.0100E-08	4.3137E+16	1.0648E+10
Ce-143	2.4558E-01	3.6980E-10	1.5573E+15	9.0864E+09
Ce-144	2.4778E-01	7.7686E-08	3.2488E+17	9.1678E+09
Pr-143	1.0526E-01	1.5632E-09	6.5831E+15	3.8948E+09
Nd-147	4.5870E-02	5.6700E-10	2.3228E+15	1.6972E+09
Np-239	3.2180E+00	1.3871E-08	3.4952E+16	1.1907E+11
Pu-238	8.8898E-04	5.1927E-08	1.3139E+17	3.2892E+07
Pu-239	8.4032E-05	1.3519E-06	3.4065E+18	3.1092E+06
Pu-240	1.5386E-04	6.7524E-07	1.6943E+18	5.6930E+06
Pu-241	3.3977E-02	3.2983E-07	8.2419E+17	1.2571E+09
Am-241	2.2333E-05	6.5071E-09	1.6260E+16	8.2633E+05
Cm-242	5.6713E-03	1.7112E-09	4.2582E+15	2.0984E+08
Cm-244	3.2995E-04	4.0783E-09	1.0066E+16	1.2208E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	6.5911E+23	2.5429E+18
Elemental I (atoms)	3.0040E+18	1.1590E+13
Organic I (atoms)	3.1384E+19	1.2108E+14
Aerosols (kg)	2.4500E-04	9.4522E-10

Dose Effective (Ci) I-131 (Thyroid) 1.1135E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid) 1.2490E+03

Total I (Ci) 2.6869E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6863E+23
Elemental I (atoms)	1.0048E+17	1.3185E+18
Organic I (atoms)	0.0000E+00	1.2889E+19
Aerosols (kg)	1.2380E-03	1.7170E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6844E+23
Elemental I (atoms)	2.0814E+17	1.1488E+18
Organic I (atoms)	0.0000E+00	1.2869E+19
Aerosols (kg)	2.6291E-04	6.4826E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2241E+23
Elemental I (atoms)	1.0925E+17	5.4079E+17
Organic I (atoms)	0.0000E+00	5.7868E+18
Aerosols (kg)	6.8818E-05	8.4795E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3686E+20
Elemental I (atoms)	2.5615E+15	1.3409E+14
Organic I (atoms)	1.1808E+16	1.2865E+14
Aerosols (kg)	2.1026E-07	1.4408E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2056E+19
Elemental I (atoms)	0.0000E+00	7.6454E+14
Organic I (atoms)	0.0000E+00	2.6345E+15
Aerosols (kg)	0.0000E+00	6.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.8720E+20	0.0000E+00
Elemental I (atoms)	8.9101E+14	0.0000E+00
Organic I (atoms)	2.7365E+15	0.0000E+00
Aerosols (kg)	8.3340E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.5865E-01	1.6856E+01	1.4728E+00
Accumulated dose (rem)	1.4848E+01	1.2372E+02	1.9070E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0312E-02	1.1915E-01	1.3947E-02
Accumulated dose (rem)	4.7564E-01	2.6811E+00	5.8218E-01

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6295E-02	2.2444E+00	9.4759E-02
Accumulated dose (rem)	1.2889E+00	5.0284E+01	3.2260E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Kr-85	1.3251E+06	3.3774E+00	2.3929E+25	1.6973E+22
Kr-85m	6.9945E+00	8.4993E-10	6.0216E+15	1.4617E+22
Kr-88	3.6682E-03	2.9254E-13	2.0019E+12	2.3348E+22
Sr-90	2.8992E-15	2.1254E-20	1.4222E+05	2.1822E+18
I-131	2.4751E+04	1.9964E-04	9.1777E+20	6.0595E+20
I-132	2.4896E-08	2.4119E-18	1.1003E+07	3.5352E+20
I-133	2.9400E+03	2.5953E-06	1.1752E+19	7.2698E+20
I-135	2.9126E+00	8.2936E-10	3.6996E+15	4.8260E+20
Xe-133	9.1300E+07	4.8776E-01	2.2085E+24	1.5371E+24
Xe-135	4.2373E+04	1.6592E-05	7.4016E+19	1.0440E+23
Cs-134	6.4575E-14	4.9910E-20	2.2430E+05	4.8696E+19
Cs-137	5.1390E-14	5.9081E-19	2.5971E+06	3.8622E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	2.6137E+25	0.0000E+00	
Elemental I (atoms)	3.9417E+02	5.5934E+22	
Organic I (atoms)	9.2953E+20	0.0000E+00	
Aerosols (kg)	6.7278E-19	5.2899E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		9.3826E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		9.4929E-06
Total I (Ci)			2.7694E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.6719E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.6719E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7944E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	8.3443E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4249E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	1.5206E+14

Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2306E+11
Elemental I (atoms)	0.0000E+00	7.1750E+05
Organic I (atoms)	0.0000E+00	1.3191E+07
Aerosols (kg)	0.0000E+00	9.5928E-16

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2362E+16	2.1820E+08
Kr-85	4.1066E+04	1.0467E-01	7.4157E+23	1.5194E+15
Kr-85m	3.7827E+04	4.5965E-06	3.2565E+19	1.3996E+15
Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1075E+14
Kr-88	5.2147E+04	4.1587E-06	2.8460E+19	1.9295E+15
Rb-86	1.7745E-01	2.1808E-09	1.5271E+16	6.5656E+09
Sr-89	6.6673E+00	2.2949E-07	1.5529E+18	2.4669E+11
Sr-90	1.0514E+00	7.7078E-06	5.1575E+19	3.8902E+10
Sr-91	6.2755E+00	1.7312E-09	1.1456E+16	2.3219E+11
Sr-92	3.6408E+00	2.8966E-10	1.8960E+15	1.3471E+11
Y-90	4.6589E-02	8.5632E-11	5.7299E+14	1.7238E+09
Y-91	9.0382E-02	3.6855E-09	2.4390E+16	3.3441E+09
Y-92	1.4527E+00	1.5097E-10	9.8822E+14	5.3749E+10
Y-93	5.1711E-02	1.5500E-11	1.0037E+14	1.9133E+09
Zr-95	1.2284E-01	5.7181E-09	3.6247E+16	4.5451E+09
Zr-97	1.0042E-01	5.2530E-11	3.2613E+14	3.7155E+09
Nb-95	1.2309E-01	3.1477E-09	1.9954E+16	4.5542E+09
Mo-99	1.5399E+00	3.2106E-09	1.9530E+16	5.6975E+10
Tc-99m	1.4112E+00	2.6838E-10	1.6325E+15	5.2214E+10
Ru-103	1.3844E+00	4.2897E-08	2.5080E+17	5.1224E+10
Ru-105	5.3750E-01	7.9962E-11	4.5861E+14	1.9888E+10
Ru-106	6.0563E-01	1.8102E-07	1.0284E+18	2.2408E+10
Rh-105	8.8848E-01	1.0526E-09	6.0373E+15	3.2874E+10
Sb-127	1.4818E+00	5.5487E-09	2.6311E+16	5.4826E+10
Sb-129	3.0330E+00	5.3935E-10	2.5178E+15	1.1222E+11
Te-127	1.5117E+00	5.7280E-10	2.7161E+15	5.5932E+10
Te-127m	2.6072E-01	2.7641E-08	1.3107E+17	9.6467E+09
Te-129	3.7363E+00	1.7841E-10	8.3287E+14	1.3824E+11
Te-129m	1.0716E+00	3.5572E-08	1.6606E+17	3.9650E+10
Te-131m	3.1487E+00	3.9487E-09	1.8152E+16	1.1650E+11
Te-132	2.3624E+01	7.7816E-08	3.5501E+17	8.7410E+11
I-131	1.1003E+03	8.8750E-06	4.0799E+19	4.0710E+13
I-132	2.1654E+02	2.0978E-08	9.5707E+16	8.0120E+12
I-133	1.0551E+03	9.3143E-07	4.2174E+18	3.9040E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.5098E+02	1.2842E-07	5.7284E+17	1.6686E+13
Xe-133	3.8056E+06	2.0331E-02	9.2057E+22	1.4081E+17
Xe-135	2.9714E+05	1.1636E-04	5.1905E+20	1.0994E+16
Cs-134	2.3537E+01	1.8191E-05	8.1755E+19	8.7086E+11
Cs-136	6.3664E+00	8.6865E-08	3.8464E+17	2.3556E+11
Cs-137	1.8669E+01	2.1464E-04	9.4348E+20	6.9077E+11
Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2438E+01	1.6990E-07	7.3083E+17	4.6022E+11
La-140	7.9150E-01	1.4240E-09	6.1254E+15	2.9285E+10
La-141	5.9154E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8778E-01	1.0100E-08	4.3137E+16	1.0648E+10
Ce-143	2.4558E-01	3.6980E-10	1.5573E+15	9.0865E+09
Ce-144	2.4778E-01	7.7686E-08	3.2489E+17	9.1678E+09
Pr-143	1.0527E-01	1.5632E-09	6.5832E+15	3.8948E+09
Nd-147	4.5870E-02	5.6701E-10	2.3229E+15	1.6972E+09
Np-239	3.2180E+00	1.3871E-08	3.4952E+16	1.1907E+11

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Pu-238                 8.8899E-04  5.1928E-08  1.3139E+17  3.2893E+07
Pu-239                 8.4033E-05  1.3520E-06  3.4065E+18  3.1092E+06
Pu-240                 1.5387E-04  6.7525E-07  1.6943E+18  5.6931E+06
Pu-241                 3.3977E-02  3.2983E-07  8.2419E+17  1.2572E+09
Am-241                 2.2334E-05  6.5071E-09  1.6260E+16  8.2634E+05
Cm-242                 5.6714E-03  1.7112E-09  4.2582E+15  2.0984E+08
Cm-244                 3.2995E-04  4.0784E-09  1.0066E+16  1.2208E+07

Environment Transport Group Inventory:

                         Total      Release
Time (h) =  96.0000     Release     Rate/s
Noble gases (atoms)    8.3421E+23  2.4138E+18
Elemental I (atoms)    3.0040E+18  8.6922E+12
Organic I (atoms)      3.7876E+19  1.0959E+14
Aerosols (kg)          2.4500E-04  7.0892E-10
Dose Effective (Ci) I-131 (Thyroid)            1.2903E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      1.4287E+03
Total I  (Ci)                                  2.8884E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3876E+23
Elemental I (atoms)    1.0048E+17  1.3185E+18
Organic I (atoms)      0.0000E+00  1.5498E+19
Aerosols (kg)          1.2380E-03  1.7170E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3856E+23
Elemental I (atoms)    2.0814E+17  1.1488E+18
Organic I (atoms)      0.0000E+00  1.5478E+19
Aerosols (kg)          2.6291E-04  6.4826E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5734E+23
Elemental I (atoms)    1.0931E+17  5.4080E+17
Organic I (atoms)      0.0000E+00  7.0867E+18
Aerosols (kg)          6.8835E-05  8.4816E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8091E+20
Elemental I (atoms)    2.5615E+15  1.3409E+14
Organic I (atoms)      1.3431E+16  1.4504E+14
Aerosols (kg)          2.1026E-07  1.4408E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.1723E+19
Elemental I (atoms)    0.0000E+00  7.6454E+14
Organic I (atoms)      0.0000E+00  2.9942E+15
Aerosols (kg)          0.0000E+00  6.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:
```

	Pathway Filtered	Transported
Time (h) = 96.0000		
Noble gases (atoms)	3.4092E+20	0.0000E+00
Elemental I (atoms)	8.9101E+14	0.0000E+00
Organic I (atoms)	3.1127E+15	0.0000E+00
Aerosols (kg)	8.3340E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.6069E+00	7.2267E+01	5.8079E+00
Accumulated dose (rem)	1.8455E+01	1.9599E+02	2.4878E+01

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.8579E-03	1.2979E-01	1.3811E-02
Accumulated dose (rem)	4.8550E-01	2.8109E+00	5.9599E-01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4465E-02	5.2959E+00	2.1576E-01
Accumulated dose (rem)	1.3433E+00	5.5580E+01	3.4418E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Kr-85	1.2721E+06	3.2424E+00	2.2972E+25	4.1874E+22
Kr-85m	1.4175E-09	1.7225E-19	1.2204E+06	1.4617E+22
Sr-90	2.8981E-15	2.1246E-20	1.4216E+05	2.1822E+18
I-131	1.4180E+04	1.1438E-04	5.2581E+20	9.6990E+20
I-133	2.3283E+01	2.0553E-08	9.3064E+16	7.3854E+20
I-135	7.7451E-07	2.2054E-16	9.8380E+08	4.8261E+20
Xe-133	3.9705E+07	2.1212E-01	9.6047E+23	2.7254E+24
Xe-135	6.9359E-01	2.7160E-10	1.2116E+15	1.0448E+23
Cs-134	6.4220E-14	4.9636E-20	2.2307E+05	4.8696E+19
Cs-137	5.1371E-14	5.9059E-19	2.5961E+06	3.8622E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	2.3932E+25	0.0000E+00
Elemental I (atoms)	2.3204E+02	5.5934E+22
Organic I (atoms)	5.2590E+20	0.0000E+00
Aerosols (kg)	6.7126E-19	5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		5.2727E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		5.2735E-06
Total I (Ci)		1.4203E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 240.0000		
Noble gases (atoms)	0.0000E+00	7.5682E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7978E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 240.0000		
Noble gases (atoms)	0.0000E+00	7.5682E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7978E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7685E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	1.3942E+19
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.1902E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	2.8717E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9425E+12
Elemental I (atoms)	0.0000E+00	1.3773E+06
Organic I (atoms)	0.0000E+00	5.7540E+07
Aerosols (kg)	0.0000E+00	2.4108E-15

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	9.2789E+04	2.3651E-01	1.6756E+24	3.4332E+15
Kr-85m	3.7827E+04	4.5965E-06	3.2566E+19	1.3996E+15
Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1075E+14
Kr-88	5.2147E+04	4.1587E-06	2.8460E+19	1.9295E+15
Rb-86	1.7745E-01	2.1808E-09	1.5271E+16	6.5656E+09
Sr-89	6.6673E+00	2.2949E-07	1.5529E+18	2.4669E+11
Sr-90	1.0514E+00	7.7078E-06	5.1575E+19	3.8902E+10
Sr-91	6.2755E+00	1.7312E-09	1.1456E+16	2.3219E+11
Sr-92	3.6408E+00	2.8966E-10	1.8960E+15	1.3471E+11
Y-90	4.6590E-02	8.5634E-11	5.7300E+14	1.7238E+09
Y-91	9.0383E-02	3.6855E-09	2.4390E+16	3.3442E+09
Y-92	1.4527E+00	1.5097E-10	9.8822E+14	5.3749E+10
Y-93	5.1711E-02	1.5500E-11	1.0037E+14	1.9133E+09
Zr-95	1.2284E-01	5.7181E-09	3.6247E+16	4.5451E+09
Zr-97	1.0042E-01	5.2530E-11	3.2613E+14	3.7155E+09
Nb-95	1.2309E-01	3.1477E-09	1.9954E+16	4.5542E+09
Mo-99	1.5399E+00	3.2106E-09	1.9530E+16	5.6975E+10
Tc-99m	1.4112E+00	2.6838E-10	1.6325E+15	5.2214E+10
Ru-103	1.3844E+00	4.2897E-08	2.5081E+17	5.1224E+10
Ru-105	5.3750E-01	7.9962E-11	4.5861E+14	1.9888E+10
Ru-106	6.0563E-01	1.8102E-07	1.0284E+18	2.2408E+10
Rh-105	8.8848E-01	1.0526E-09	6.0373E+15	3.2874E+10
Sb-127	1.4818E+00	5.5487E-09	2.6311E+16	5.4826E+10
Sb-129	3.0330E+00	5.3935E-10	2.5178E+15	1.1222E+11
Te-127	1.5117E+00	5.7280E-10	2.7161E+15	5.5932E+10
Te-127m	2.6072E-01	2.7641E-08	1.3107E+17	9.6467E+09
Te-129	3.7363E+00	1.7841E-10	8.3287E+14	1.3824E+11
Te-129m	1.0716E+00	3.5573E-08	1.6606E+17	3.9650E+10
Te-131m	3.1487E+00	3.9487E-09	1.8152E+16	1.1650E+11
Te-132	2.3624E+01	7.7816E-08	3.5501E+17	8.7410E+11
I-131	1.8549E+03	1.4962E-05	6.8780E+19	6.8631E+13
I-132	2.1654E+02	2.0978E-08	9.5707E+16	8.0120E+12
I-133	1.0787E+03	9.5228E-07	4.3118E+18	3.9914E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.5099E+02	1.2842E-07	5.7285E+17	1.6686E+13

Xe-133	6.2672E+06	3.3482E-02	1.5160E+23	2.3188E+17
Xe-135	2.9729E+05	1.1641E-04	5.1931E+20	1.1000E+16
Cs-134	2.3537E+01	1.8191E-05	8.1755E+19	8.7086E+11
Cs-136	6.3664E+00	8.6865E-08	3.8464E+17	2.3556E+11
Cs-137	1.8669E+01	2.1464E-04	9.4348E+20	6.9077E+11
Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2438E+01	1.6990E-07	7.3083E+17	4.6022E+11
La-140	7.9151E-01	1.4240E-09	6.1255E+15	2.9286E+10
La-141	5.9154E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8778E-01	1.0100E-08	4.3137E+16	1.0648E+10
Ce-143	2.4558E-01	3.6980E-10	1.5573E+15	9.0865E+09
Ce-144	2.4778E-01	7.7686E-08	3.2489E+17	9.1679E+09
Pr-143	1.0527E-01	1.5632E-09	6.5832E+15	3.8948E+09
Nd-147	4.5870E-02	5.6701E-10	2.3229E+15	1.6972E+09
Np-239	3.2180E+00	1.3871E-08	3.4952E+16	1.1907E+11
Pu-238	8.8899E-04	5.1928E-08	1.3139E+17	3.2893E+07
Pu-239	8.4033E-05	1.3520E-06	3.4066E+18	3.1092E+06
Pu-240	1.5387E-04	6.7525E-07	1.6944E+18	5.6931E+06
Pu-241	3.3977E-02	3.2983E-07	8.2420E+17	1.2572E+09
Am-241	2.2334E-05	6.5071E-09	1.6260E+16	8.2634E+05
Cm-242	5.6714E-03	1.7112E-09	4.2583E+15	2.0984E+08
Cm-244	3.2995E-04	4.0784E-09	1.0066E+16	1.2208E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.8278E+24	2.1155E+18
Elemental I (atoms)	3.0040E+18	3.4769E+12
Organic I (atoms)	6.5952E+19	7.6333E+13
Aerosols (kg)	2.4500E-04	2.8357E-10

Dose Effective (Ci) I-131 (Thyroid)	2.0489E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.1897E+03
Total I (Ci)	3.6666E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.3661E+23
Elemental I (atoms)	1.0048E+17	1.3185E+18
Organic I (atoms)	0.0000E+00	2.6779E+19
Aerosols (kg)	1.2380E-03	1.7170E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.3642E+23
Elemental I (atoms)	2.0814E+17	1.1488E+18
Organic I (atoms)	0.0000E+00	2.6759E+19
Aerosols (kg)	2.6291E-04	6.4826E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5555E+23
Elemental I (atoms)	1.0932E+17	5.4080E+17
Organic I (atoms)	0.0000E+00	1.2706E+19
Aerosols (kg)	6.8837E-05	8.4819E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  4.8693E+20
Elemental I (atoms)    2.5615E+15  1.3409E+14
Organic I (atoms)      1.9214E+16  2.0345E+14
Aerosols (kg)          2.1026E-07  1.4408E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0693E+20
Elemental I (atoms)    0.0000E+00  7.6454E+14
Organic I (atoms)      0.0000E+00  4.2760E+15
Aerosols (kg)          0.0000E+00  6.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    5.9242E+20  0.0000E+00
Elemental I (atoms)    8.9101E+14  0.0000E+00
Organic I (atoms)      4.4546E+15  0.0000E+00
Aerosols (kg)          8.3340E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6196E+00  8.1369E+01  5.0969E+00
Accumulated dose (rem)  2.1075E+01  2.7736E+02  2.9975E+01

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.1596E-03  1.4614E-01  1.1609E-02
Accumulated dose (rem)  4.9266E-01  2.9570E+00  6.0760E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9435E-02  5.9542E+00  2.2071E-01
Accumulated dose (rem)  1.3828E+00  6.1534E+01  3.6625E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000       Ci           kg         Atoms      Decay
Kr-85                  1.1103E+06  2.8300E+00  2.0050E+25  1.1791E+23
Sr-90                  2.8943E-15  2.1218E-20  1.4198E+05  2.1822E+18
I-131                  2.2147E+03  1.7864E-05  8.2122E+19  1.3819E+21
I-133                  2.3049E-06  2.0347E-15  9.2129E+09  7.3863E+20
Xe-133                 2.4742E+06  1.3218E-02  5.9852E+22  3.5829E+24
Cs-134                 6.3049E-14  4.8730E-20  2.1900E+05  4.8696E+19
Cs-137                 5.1306E-14  5.8984E-19  2.5928E+06  3.8622E+19

Sprayed Drywell Transport Group Inventory:
Time (h) = 720.0000    Atmosphere     Sump
Noble gases (atoms)    2.0110E+25  0.0000E+00
Elemental I (atoms)    4.1363E+01  5.5934E+22
Organic I (atoms)      8.2122E+19  0.0000E+00
Aerosols (kg)          6.6819E-19  5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         8.2328E-07
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.2328E-07
Total I (Ci)                                   2.2147E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9136E+24
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Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	4.0679E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9136E+24
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	4.0679E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5191E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	2.0256E+19
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2071E+19
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	4.3957E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6023E+13
Elemental I (atoms)	0.0000E+00	2.1747E+06
Organic I (atoms)	0.0000E+00	1.9019E+08
Aerosols (kg)	0.0000E+00	7.2318E-15

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	2.5072E+05	6.3905E-01	4.5276E+24	9.2767E+15
Kr-85m	3.7827E+04	4.5965E-06	3.2566E+19	1.3996E+15
Kr-87	8.3985E+03	2.9650E-07	2.0524E+18	3.1075E+14
Kr-88	5.2147E+04	4.1587E-06	2.8460E+19	1.9295E+15
Rb-86	1.7745E-01	2.1808E-09	1.5271E+16	6.5656E+09
Sr-89	6.6673E+00	2.2949E-07	1.5529E+18	2.4669E+11
Sr-90	1.0514E+00	7.7078E-06	5.1575E+19	3.8902E+10
Sr-91	6.2755E+00	1.7312E-09	1.1456E+16	2.3219E+11
Sr-92	3.6408E+00	2.8966E-10	1.8960E+15	1.3471E+11
Y-90	4.6590E-02	8.5634E-11	5.7300E+14	1.7238E+09
Y-91	9.0383E-02	3.6855E-09	2.4390E+16	3.3442E+09
Y-92	1.4527E+00	1.5097E-10	9.8822E+14	5.3749E+10
Y-93	5.1711E-02	1.5500E-11	1.0037E+14	1.9133E+09
Zr-95	1.2284E-01	5.7181E-09	3.6247E+16	4.5451E+09
Zr-97	1.0042E-01	5.2530E-11	3.2613E+14	3.7155E+09
Nb-95	1.2309E-01	3.1477E-09	1.9954E+16	4.5542E+09
Mo-99	1.5399E+00	3.2106E-09	1.9530E+16	5.6975E+10
Tc-99m	1.4112E+00	2.6838E-10	1.6325E+15	5.2214E+10
Ru-103	1.3844E+00	4.2897E-08	2.5081E+17	5.1224E+10
Ru-105	5.3750E-01	7.9962E-11	4.5861E+14	1.9888E+10
Ru-106	6.0563E-01	1.8102E-07	1.0284E+18	2.2408E+10
Rh-105	8.8848E-01	1.0526E-09	6.0373E+15	3.2874E+10

Sb-127	1.4818E+00	5.5487E-09	2.6311E+16	5.4826E+10
Sb-129	3.0330E+00	5.3935E-10	2.5178E+15	1.1222E+11
Te-127	1.5117E+00	5.7280E-10	2.7161E+15	5.5932E+10
Te-127m	2.6072E-01	2.7641E-08	1.3107E+17	9.6467E+09
Te-129	3.7363E+00	1.7841E-10	8.3287E+14	1.3824E+11
Te-129m	1.0716E+00	3.5573E-08	1.6606E+17	3.9650E+10
Te-131m	3.1487E+00	3.9487E-09	1.8152E+16	1.1650E+11
Te-132	2.3624E+01	7.7816E-08	3.5501E+17	8.7410E+11
I-131	2.7091E+03	2.1852E-05	1.0045E+20	1.0024E+14
I-132	2.1654E+02	2.0978E-08	9.5707E+16	8.0120E+12
I-133	1.0789E+03	9.5244E-07	4.3126E+18	3.9921E+13
I-134	6.5439E+01	2.4530E-09	1.1024E+16	2.4212E+12
I-135	4.5099E+02	1.2842E-07	5.7285E+17	1.6686E+13
Xe-133	8.0434E+06	4.2971E-02	1.9457E+23	2.9761E+17
Xe-135	2.9729E+05	1.1641E-04	5.1931E+20	1.1000E+16
Cs-134	2.3537E+01	1.8191E-05	8.1755E+19	8.7086E+11
Cs-136	6.3664E+00	8.6865E-08	3.8464E+17	2.3556E+11
Cs-137	1.8669E+01	2.1464E-04	9.4348E+20	6.9077E+11
Ba-139	2.6825E+00	1.6400E-10	7.1051E+14	9.9252E+10
Ba-140	1.2438E+01	1.6990E-07	7.3083E+17	4.6022E+11
La-140	7.9151E-01	1.4240E-09	6.1255E+15	2.9286E+10
La-141	5.9154E-02	1.0460E-11	4.4674E+13	2.1887E+09
La-142	2.7293E-02	1.9066E-12	8.0859E+12	1.0099E+09
Ce-141	2.8778E-01	1.0100E-08	4.3137E+16	1.0648E+10
Ce-143	2.4558E-01	3.6980E-10	1.5573E+15	9.0865E+09
Ce-144	2.4778E-01	7.7686E-08	3.2489E+17	9.1679E+09
Pr-143	1.0527E-01	1.5632E-09	6.5832E+15	3.8948E+09
Nd-147	4.5870E-02	5.6701E-10	2.3229E+15	1.6972E+09
Np-239	3.2180E+00	1.3871E-08	3.4952E+16	1.1907E+11
Pu-238	8.8899E-04	5.1928E-08	1.3139E+17	3.2893E+07
Pu-239	8.4033E-05	1.3520E-06	3.4066E+18	3.1092E+06
Pu-240	1.5387E-04	6.7525E-07	1.6944E+18	5.6931E+06
Pu-241	3.3977E-02	3.2983E-07	8.2420E+17	1.2572E+09
Am-241	2.2334E-05	6.5071E-09	1.6260E+16	8.2634E+05
Cm-242	5.6714E-03	1.7112E-09	4.2583E+15	2.0984E+08
Cm-244	3.2995E-04	4.0784E-09	1.0066E+16	1.2208E+07

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.7228E+24	1.8221E+18
Elemental I (atoms)	3.0040E+18	1.1590E+12
Organic I (atoms)	9.7626E+19	3.7665E+13
Aerosols (kg)	2.4500E-04	9.4523E-11

Dose Effective (Ci) I-131 (Thyroid)	2.9031E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.0439E+03
Total I (Ci)	4.5210E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8955E+24
Elemental I (atoms)	1.0048E+17	1.3185E+18
Organic I (atoms)	0.0000E+00	3.9503E+19
Aerosols (kg)	1.2380E-03	1.7170E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8954E+24
Elemental I (atoms)	2.0814E+17	1.1488E+18
Organic I (atoms)	0.0000E+00	3.9483E+19
Aerosols (kg)	2.6291E-04	6.4826E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3292E+23
Elemental I (atoms)	1.0932E+17	5.4080E+17
Organic I (atoms)	0.0000E+00	1.9046E+19
Aerosols (kg)	6.8837E-05	8.4819E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0871E+21
Elemental I (atoms)	2.5615E+15	1.3409E+14
Organic I (atoms)	2.5737E+16	2.6934E+14
Aerosols (kg)	2.1026E-07	1.4408E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3863E+20
Elemental I (atoms)	0.0000E+00	7.6454E+14
Organic I (atoms)	0.0000E+00	5.7219E+15
Aerosols (kg)	0.0000E+00	6.8941E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.3244E+21	0.0000E+00
Elemental I (atoms)	8.9101E+14	0.0000E+00
Organic I (atoms)	5.9667E+15	0.0000E+00
Aerosols (kg)	8.3340E-08	0.0000E+00

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#####################################################################
                              I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4667E+03	0.0000E+00	0.0000E+00
0.033	2.6770E+05	0.0000E+00	0.0000E+00
0.167	1.3394E+06	3.9255E+01	3.8946E+01
0.500	5.4573E+05	1.1276E+02	1.0861E+02
0.667	8.7069E+05	1.5003E+02	1.4313E+02
1.000	9.0500E+05	2.3031E+02	2.1586E+02
1.160	9.0795E+05	2.6487E+02	2.4605E+02
1.410	9.1226E+05	3.1392E+02	2.8760E+02
1.660	9.1654E+05	3.5755E+02	3.2323E+02
1.910	9.2081E+05	3.9641E+02	3.5382E+02
2.000	9.2234E+05	4.0933E+02	3.6376E+02
2.200	7.9891E+04	3.9913E+02	3.4985E+02
2.250	5.6611E+04	3.9398E+02	3.4386E+02
2.300	4.5612E+04	3.8873E+02	3.3781E+02
2.350	4.0414E+04	3.8347E+02	3.3180E+02
2.700	3.5741E+04	3.4831E+02	2.9234E+02
3.000	3.5673E+04	3.2089E+02	2.6248E+02
3.300	3.5628E+04	2.9580E+02	2.3589E+02
3.600	3.5584E+04	2.7285E+02	2.1222E+02
3.900	3.5540E+04	2.5185E+02	1.9114E+02
4.000	3.5525E+04	2.4526E+02	1.8464E+02
4.300	3.5481E+04	2.2661E+02	1.6659E+02
4.600	3.5437E+04	2.0954E+02	1.5052E+02

4.900	3.5393E+04	1.9393E+02	1.3620E+02
5.200	3.5349E+04	1.7964E+02	1.2346E+02
5.500	3.5305E+04	1.6657E+02	1.1211E+02
5.800	3.5261E+04	1.5461E+02	1.0201E+02
6.100	3.5217E+04	1.4366E+02	9.3009E+01
6.400	3.5174E+04	1.3365E+02	8.4996E+01
6.700	3.5130E+04	1.2448E+02	7.7859E+01
7.000	3.5086E+04	1.1610E+02	7.1504E+01
7.300	3.5043E+04	1.0842E+02	6.5843E+01
7.600	3.4999E+04	1.0140E+02	6.0801E+01
7.900	3.4956E+04	9.4973E+01	5.6309E+01
8.000	3.4941E+04	9.2954E+01	5.4924E+01
8.300	3.4898E+04	8.7243E+01	5.1074E+01
8.600	3.4854E+04	8.2015E+01	4.7644E+01
8.900	3.4811E+04	7.7230E+01	4.4588E+01
9.200	3.4768E+04	7.2850E+01	4.1865E+01
9.500	3.4725E+04	6.8840E+01	3.9437E+01
9.800	3.4682E+04	6.5169E+01	3.7274E+01
10.100	3.4638E+04	6.1809E+01	3.5346E+01
10.400	3.4595E+04	5.8732E+01	3.3626E+01
24.000	3.2700E+04	2.5194E+01	1.8863E+01
48.000	2.9801E+04	2.2535E+01	1.7193E+01
72.000	2.7159E+04	2.0525E+01	1.5669E+01
96.000	2.4751E+04	1.8705E+01	1.4280E+01
240.000	1.4180E+04	1.0717E+01	8.1809E+00
720.000	2.2147E+03	1.6737E+00	1.2777E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.3207E-01	1.9791E+01	4.6180E-02
0.500	3.7826E+00	5.9029E+01	6.1393E-01
0.667	5.8493E+00	7.9551E+01	1.0202E+00
1.000	1.0964E+01	1.2505E+02	2.1412E+00
1.160	1.3626E+01	1.4557E+02	2.7974E+00
1.410	1.7760E+01	1.7583E+02	3.9317E+00
1.660	2.1700E+01	2.0404E+02	5.1613E+00
1.910	2.5356E+01	2.3035E+02	6.4537E+00
2.000	2.6595E+01	2.3938E+02	6.9293E+00
2.200	2.7941E+01	2.3761E+02	7.5256E+00
2.250	2.8176E+01	2.3582E+02	7.6624E+00
2.300	2.8370E+01	2.3395E+02	7.7937E+00
2.350	2.8525E+01	2.3206E+02	7.9198E+00
2.700	2.8732E+01	2.1906E+02	8.6648E+00
3.000	2.8049E+01	2.0853E+02	9.1389E+00
3.300	2.6910E+01	1.9856E+02	9.4898E+00
3.600	2.5525E+01	1.8912E+02	9.7404E+00
3.900	2.4033E+01	1.8018E+02	9.9092E+00
4.000	2.3528E+01	1.7731E+02	9.9501E+00
4.300	2.2026E+01	1.6900E+02	1.0034E+01
4.600	2.0577E+01	1.6113E+02	1.0068E+01
4.900	1.9208E+01	1.5368E+02	1.0063E+01
5.200	1.7935E+01	1.4662E+02	1.0026E+01
5.500	1.6762E+01	1.3994E+02	9.9649E+00
5.800	1.5690E+01	1.3362E+02	9.8850E+00
6.100	1.4717E+01	1.2763E+02	9.7907E+00
6.400	1.3837E+01	1.2196E+02	9.6860E+00
6.700	1.3043E+01	1.1659E+02	9.5737E+00
7.000	1.2330E+01	1.1150E+02	9.4564E+00
7.300	1.1689E+01	1.0669E+02	9.3361E+00
7.600	1.1115E+01	1.0213E+02	9.2145E+00
7.900	1.0601E+01	9.7808E+01	9.0927E+00
8.000	1.0442E+01	9.6420E+01	9.0523E+00
8.300	9.9963E+00	9.2404E+01	8.9295E+00
8.600	9.5985E+00	8.8601E+01	8.8091E+00
8.900	9.2434E+00	8.4999E+01	8.6918E+00

9.200	8.9263E+00	8.1588E+01	8.5777E+00
9.500	8.6431E+00	7.8358E+01	8.4672E+00
9.800	8.3901E+00	7.5298E+01	8.3604E+00
10.100	8.1639E+00	7.2400E+01	8.2574E+00
10.400	7.9617E+00	6.9655E+01	8.1582E+00
24.000	6.0456E+00	2.4255E+01	6.2209E+00
48.000	5.5234E+00	1.8742E+01	5.5149E+00
72.000	5.0340E+00	1.6722E+01	5.0078E+00
96.000	4.5877E+00	1.5201E+01	4.5619E+00
240.000	2.6283E+00	8.7062E+00	2.6135E+00
720.000	4.1050E-01	1.3598E+00	4.0818E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6456E-09
0.033	0.0000E+00	0.0000E+00	5.9117E-06
0.167	1.7523E-01	5.6488E-04	1.4807E-04
0.500	2.8912E+00	6.0525E-03	4.5624E-04
0.667	5.2568E+00	9.2342E-03	6.2600E-04
1.000	1.2633E+01	6.8391E-03	1.0214E-03
1.160	1.7481E+01	6.3550E-03	1.2131E-03
1.410	2.6734E+01	6.1687E-03	1.5137E-03
1.660	3.7979E+01	6.4588E-03	1.8154E-03
1.910	5.1139E+01	7.0499E-03	2.1183E-03
2.000	5.6330E+01	7.3123E-03	2.2276E-03
2.200	6.3349E+01	6.5169E-03	2.3100E-03
2.250	6.5112E+01	6.3569E-03	2.3140E-03
2.300	6.6874E+01	6.2092E-03	2.3170E-03
2.350	6.8635E+01	6.0727E-03	2.3194E-03
2.700	8.0854E+01	5.3560E-03	2.3335E-03
3.000	9.1111E+01	4.9600E-03	2.3453E-03
3.300	1.0111E+02	4.6749E-03	2.3570E-03
3.600	1.1083E+02	4.4537E-03	2.3687E-03
3.900	1.2025E+02	4.2703E-03	2.3803E-03
4.000	1.2333E+02	4.2150E-03	2.3842E-03
4.300	1.3237E+02	4.0614E-03	2.3958E-03
4.600	1.4114E+02	3.9224E-03	2.4074E-03
4.900	1.4965E+02	3.7947E-03	2.4189E-03
5.200	1.5792E+02	3.6768E-03	2.4304E-03
5.500	1.6595E+02	3.5677E-03	2.4419E-03
5.800	1.7378E+02	3.4667E-03	2.4534E-03
6.100	1.8142E+02	3.3735E-03	2.4648E-03
6.400	1.8888E+02	3.2876E-03	2.4762E-03
6.700	1.9619E+02	3.2086E-03	2.4875E-03
7.000	2.0334E+02	3.1362E-03	2.4989E-03
7.300	2.1036E+02	3.0698E-03	2.5102E-03
7.600	2.1725E+02	3.0090E-03	2.5215E-03
7.900	2.2403E+02	2.9535E-03	2.5327E-03
8.000	2.2627E+02	2.9361E-03	2.5364E-03
8.300	2.3289E+02	2.2586E-03	2.5476E-03
8.600	2.3942E+02	1.8370E-03	2.5588E-03
8.900	2.4586E+02	1.5728E-03	2.5700E-03
9.200	2.5223E+02	1.4056E-03	2.5811E-03
9.500	2.5854E+02	1.2985E-03	2.5922E-03
9.800	2.6478E+02	1.2285E-03	2.6032E-03
10.100	2.7097E+02	1.1818E-03	2.6143E-03
10.400	2.7711E+02	1.1495E-03	2.6253E-03
24.000	5.3291E+02	9.7300E-04	3.0939E-03
48.000	7.3977E+02	2.9259E-04	3.7922E-03
72.000	9.2838E+02	2.6664E-04	4.3475E-03
96.000	1.1003E+03	2.4300E-04	4.7795E-03
240.000	1.8549E+03	1.1476E-04	5.6127E-03
720.000	2.7091E+03	1.7924E-05	2.5084E-03

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#####################################################################
                        Cumulative Dose Summary
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Time (hr)	Exclusion Area Bounda Thyroid (rem)	TEDE (rem)	Low Population Zone Thyroid (rem)	TEDE (rem)	Control Room Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.3642E-02	1.1760E-03	2.4772E-03	1.2322E-04	2.1929E-02	8.9203E-04
0.500	3.8889E-01	2.0713E-02	4.0748E-02	2.1703E-03	9.1127E-01	3.6879E-02
0.667	7.0682E-01	4.0366E-02	7.4061E-02	4.2296E-03	1.9748E+00	8.0228E-02
1.000	1.7036E+00	1.2364E-01	1.7851E-01	1.2955E-02	4.1717E+00	1.7279E-01
1.160	2.3594E+00	1.9240E-01	2.4722E-01	2.0160E-02	5.0509E+00	2.1207E-01
1.410	3.6104E+00	3.4738E-01	3.7830E-01	3.6399E-02	6.3508E+00	2.7487E-01
1.660	5.1283E+00	5.6833E-01	5.3735E-01	5.9550E-02	7.6661E+00	3.4556E-01
1.910	6.9011E+00	8.6163E-01	7.2310E-01	9.0283E-02	9.0765E+00	4.2915E-01
2.000	7.5991E+00	9.8574E-01	7.9624E-01	1.0329E-01	9.6176E+00	4.6309E-01
2.200	8.5421E+00	1.1618E+00	8.3719E-01	1.1093E-01	1.0772E+01	5.3760E-01
2.250	8.7784E+00	1.2074E+00	8.4746E-01	1.1291E-01	1.1041E+01	5.5522E-01
2.300	9.0145E+00	1.2535E+00	8.5771E-01	1.1492E-01	1.1304E+01	5.7252E-01
2.350	9.2501E+00	1.3002E+00	8.6794E-01	1.1694E-01	1.1560E+01	5.8955E-01
2.700	1.0881E+01	1.6429E+00	9.3878E-01	1.3183E-01	1.3220E+01	7.0312E-01
3.000	1.2244E+01	1.9525E+00	9.9796E-01	1.4527E-01	1.4503E+01	7.9523E-01
3.300	1.3567E+01	2.2717E+00	1.0554E+00	1.5913E-01	1.5698E+01	8.8457E-01
3.600	1.4847E+01	2.5966E+00	1.1110E+00	1.7324E-01	1.6827E+01	9.7198E-01
3.900	1.6083E+01	2.9239E+00	1.1647E+00	1.8745E-01	1.7901E+01	1.0578E+00
4.000	1.6485E+01	3.0331E+00	1.1821E+00	1.9219E-01	1.8249E+01	1.0860E+00
4.300	1.7665E+01	3.3594E+00	1.2334E+00	2.0637E-01	1.9263E+01	1.1696E+00
4.600	1.8803E+01	3.6826E+00	1.2828E+00	2.2040E-01	2.0237E+01	1.2515E+00
4.900	1.9904E+01	4.0010E+00	1.3306E+00	2.3423E-01	2.1175E+01	1.3315E+00
5.200	2.0968E+01	4.3134E+00	1.3768E+00	2.4779E-01	2.2080E+01	1.4094E+00
5.500	2.2000E+01	4.6188E+00	1.4216E+00	2.6106E-01	2.2953E+01	1.4853E+00
5.800	2.3001E+01	4.9167E+00	1.4651E+00	2.7400E-01	2.3798E+01	1.5590E+00
6.100	2.3973E+01	5.2066E+00	1.5073E+00	2.8658E-01	2.4617E+01	1.6306E+00
6.400	2.4920E+01	5.4881E+00	1.5484E+00	2.9881E-01	2.5411E+01	1.7000E+00
6.700	2.5843E+01	5.7612E+00	1.5885E+00	3.1067E-01	2.6182E+01	1.7672E+00
7.000	2.6744E+01	6.0258E+00	1.6276E+00	3.2216E-01	2.6933E+01	1.8323E+00
7.300	2.7625E+01	6.2819E+00	1.6659E+00	3.3328E-01	2.7665E+01	1.8953E+00
7.600	2.8487E+01	6.5297E+00	1.7033E+00	3.4404E-01	2.8379E+01	1.9563E+00
7.900	2.9333E+01	6.7693E+00	1.7401E+00	3.5445E-01	2.9077E+01	2.0154E+00
8.000	2.9611E+01	6.8474E+00	1.7521E+00	3.5784E-01	2.9307E+01	2.0347E+00
8.300	3.0433E+01	7.0763E+00	1.7640E+00	3.6384E-01	2.9907E+01	2.0847E+00
8.600	3.1240E+01	7.2977E+00	1.7756E+00	3.6963E-01	3.0380E+01	2.1234E+00
8.900	3.2036E+01	7.5116E+00	1.7870E+00	3.7523E-01	3.0773E+01	2.1552E+00
9.200	3.2820E+01	7.7185E+00	1.7983E+00	3.8065E-01	3.1116E+01	2.1826E+00
9.500	3.3593E+01	7.9186E+00	1.8094E+00	3.8588E-01	3.1427E+01	2.2071E+00
9.800	3.4357E+01	8.1122E+00	1.8204E+00	3.9093E-01	3.1717E+01	2.2297E+00
10.100	3.5112E+01	8.2996E+00	1.8313E+00	3.9582E-01	3.1992E+01	2.2509E+00
10.400	3.5858E+01	8.4810E+00	1.8420E+00	4.0055E-01	3.2258E+01	2.2711E+00
24.000	6.5657E+01	1.3541E+01	2.2706E+00	5.2926E-01	4.2350E+01	2.8765E+00
48.000	8.7819E+01	1.5866E+01	2.4273E+00	5.5175E-01	4.5503E+01	3.0222E+00
72.000	1.0687E+02	1.7598E+01	2.5619E+00	5.6823E-01	4.8040E+01	3.1313E+00
96.000	1.2372E+02	1.9070E+01	2.6811E+00	5.8218E-01	5.0284E+01	3.2260E+00
240.000	1.9599E+02	2.4878E+01	2.8109E+00	5.9599E-01	5.5580E+01	3.4418E+00
720.000	2.7736E+02	2.9975E+01	2.9570E+00	6.0760E-01	6.1534E+01	3.6625E+00

```
#####################################################################
                          Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
3.0	1.8025E+00	8.0145E+00	2.1526E+00

Attachment 12.6a - RADTRAD Nuclide Inventory File "DQLOCA_ATRIUM_DEF.txt" (Framatome Fuel)

```
Nuclide Inventory Name: Dresden/Quad NIF File - 39 GWD/MTU Burnup
 Normalized MACCS Sample 3578 MWth BWR Core Inventory
 Power Level:
  0.1000E+01
 Nuclides:
  60
 Nuclide 001:
 Co-58
   7
  0.6117120000E+07
  0.5800E+02
  0.1529E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 002:
 Co-60
   7
  0.1663401096E+09
  0.6000E+02
  0.1830E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 003:
 Kr-85
   1
  0.3382974720E+09
  0.8500E+02
  4.5422E+02
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 004:
 Kr-85m
   1
  0.1612800000E+05
  0.8500E+02
  6.7636E+03
 Kr-85    0.2100E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 005:
 Kr-87
   1
  0.4578000000E+04
  0.8700E+02
  1.3560E+04
 Rb-87    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 006:
 Kr-88
   1
  0.1022400000E+05
  0.8800E+02
  1.8832E+04
 Rb-88    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 007:
 Rb-86
   3
```

```
 0.1612224000E+07
 0.8600E+02
 5.1059E+01
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 008:
Sr-89
  5
 0.4363200000E+07
 0.8900E+02
 2.5927E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 009:
Sr-90
  5
 0.9189573120E+09
 0.9000E+02
 4.0781E+03
Y-90     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 010:
Sr-91
  5
 0.3420000000E+05
 0.9100E+02
 3.2890E+04
Y-91m    0.5800E+00
Y-91     0.4200E+00
none     0.0000E+00
Nuclide 011:
Sr-92
  5
 0.9756000000E+04
 0.9200E+02
 3.4813E+04
Y-92     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 012:
Y-90
  9
 0.2304000000E+06
 0.9000E+02
 4.2107E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 013:
Y-91
  9
 0.5055264000E+07
 0.9100E+02
 3.3487E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 014:
Y-92
  9
 0.1274400000E+05
 0.9200E+02
 3.5144E+04
none     0.0000E+00
```

```
none     0.0000E+00
none     0.0000E+00
Nuclide 015:
Y-93
  9
 0.3636000000E+05
 0.9300E+02
 2.6657E+04
Zr-93    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 016:
Zr-95
  9
 0.5527872000E+07
 0.9500E+02
 4.7743E+04
Nb-95m   0.7000E-02
Nb-95    0.9900E+00
none     0.0000E+00
Nuclide 017:
Zr-97
  9
 0.6084000000E+05
 0.9700E+02
 4.6417E+04
Nb-97m   0.9500E+00
Nb-97    0.5300E-01
none     0.0000E+00
Nuclide 018:
Nb-95
  9
 0.3036960000E+07
 0.9500E+02
 4.7743E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 019:
Mo-99
  7
 0.2376000000E+06
 0.9900E+02
 5.0064E+04
Tc-99m   0.8800E+00
Tc-99    0.1200E+00
none     0.0000E+00
Nuclide 020:
Tc-99m
  7
 0.2167200000E+05
 0.9900E+02
 4.4428E+04
Tc-99    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 021:
Ru-103
  7
 0.3393792000E+07
 0.1030E+03
 4.3101E+04
Rh-103m  0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 022:
Ru-105
```

```
  7
 0.1598400000E+05
 0.1050E+03
 3.0237E+04
Rh-105   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 023:
Ru-106
  7
 0.3181248000E+08
 0.1060E+03
 1.8799E+04
Rh-106   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 024:
Rh-105
  7
 0.1272960000E+06
 0.1050E+03
 2.8314E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 025:
Sb-127
  4
 0.3326400000E+06
 0.1270E+03
 2.3772E+03
Te-127m  0.1800E+00
Te-127   0.8200E+00
none     0.0000E+00
Nuclide 026:
Sb-129
  4
 0.1555200000E+05
 0.1290E+03
 8.6534E+03
Te-129m  0.2200E+00
Te-129   0.7700E+00
none     0.0000E+00
Nuclide 027:
Te-127
  4
 0.3366000000E+05
 0.1270E+03
 2.3606E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 028:
Te-127m
  4
 0.9417600000E+07
 0.1270E+03
 4.0449E+02
Te-127   0.9800E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 029:
Te-129
  4
 0.4176000000E+04
 0.1290E+03
 8.2224E+03
```

```
I-129    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 030:
Te-129m
  4
 0.2903040000E+07
 0.1290E+03
 1.6644E+03
Te-129   0.6500E+00
I-129    0.3500E+00
none     0.0000E+00
Nuclide 031:
Te-131m
  4
 0.1080000000E+06
 0.1310E+03
 5.4043E+03
Te-131   0.2200E+00
I-131    0.7800E+00
none     0.0000E+00
Nuclide 032:
Te-132
  4
 0.2815200000E+06
 0.1320E+03
 3.8128E+04
I-132    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 033:
I-131
  2
 0.6946560000E+06
 0.1310E+03
 2.6657E+04
Xe-131m  0.1100E-01
none     0.0000E+00
none     0.0000E+00
Nuclide 034:
I-132
  2
 0.8280000000E+04
 0.1320E+03
 3.8791E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 035:
I-133
  2
 0.7488000000E+05
 0.1330E+03
 5.5037E+04
Xe-133m  0.2900E-01
Xe-133   0.9700E+00
none     0.0000E+00
Nuclide 036:
I-134
  2
 0.3156000000E+04
 0.1340E+03
 6.1005E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 037:
```

```
I-135
  2
 0.2379600000E+05
 0.1350E+03
 5.2385E+04
Xe-135m  0.1500E+00
Xe-135   0.8500E+00
none     0.0000E+00
Nuclide 038:
Xe-133
  1
 0.4531680000E+06
 0.1330E+03
 5.2716E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 039:
Xe-135
  1
 0.3272400000E+05
 0.1350E+03
 1.7871E+04
Cs-135   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 040:
Cs-134
  3
 0.6507177120E+08
 0.1340E+03
 6.7305E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 041:
Cs-136
  3
 0.1131840000E+07
 0.1360E+03
 1.8368E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 042:
Cs-137
  3
 0.9467280000E+09
 0.1370E+03
 5.3379E+03
Ba-137m  0.9500E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 043:
Ba-139
  6
 0.4962000000E+04
 0.1390E+03
 4.8406E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 044:
Ba-140
  6
 0.1100736000E+07
 0.1400E+03
```

```
 4.8738E+04
La-140   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 045:
La-140
  9
 0.1449792000E+06
 0.1400E+03
 5.2053E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 046:
La-141
  9
 0.1414800000E+05
 0.1410E+03
 4.4428E+04
Ce-141   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 047:
La-142
  9
 0.5550000000E+04
 0.1420E+03
 4.3433E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 048:
Ce-141
  8
 0.2808086400E+07
 0.1410E+03
 4.4759E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 049:
Ce-143
  8
 0.1188000000E+06
 0.1430E+03
 4.1775E+04
Pr-143   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 050:
Ce-144
  8
 0.2456352000E+08
 0.1440E+03
 3.8460E+04
Pr-144m  0.1800E-01
Pr-144   0.9800E+00
none     0.0000E+00
Nuclide 051:
Pr-143
  9
 0.1171584000E+07
 0.1430E+03
 4.0449E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
```

```
Nuclide 052:
Nd-147
  9
 0.9486720000E+06
 0.1470E+03
 1.8003E+04
Pm-147   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 053:
Np-239
  8
 0.2034720000E+06
 0.2390E+03
 5.2716E+05
Pu-239   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 054:
Pu-238
  8
 0.2768863824E+10
 0.2380E+03
 1.3792E+02
U-234    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 055:
Pu-239
  8
 0.7594336440E+12
 0.2390E+03
 1.3030E+01
U-235    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 056:
Pu-240
  8
 0.2062920312E+12
 0.2400E+03
 2.3872E+01
U-236    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 057:
Pu-241
  8
 0.4544294400E+09
 0.2410E+03
 5.2716E+03
U-237    0.2400E-04
Am-241   0.1000E+01
none     0.0000E+00
Nuclide 058:
Am-241
  9
 0.1363919472E+11
 0.2410E+03
 8.6534E+00
Np-237   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 059:
Cm-242
  9
 0.1406592000E+08
```

```
 0.2420E+03
 2.2015E+03
Pu-238   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 060:
Cm-244
  9
 0.5715081360E+09
 0.2440E+03
 1.2798E+02
Pu-240   0.1000E+01
none     0.0000E+00
none     0.0000E+00
End of Nuclear Inventory File
```

Attachment 12.7a - RADTRAD Release Fraction and Timing File (generic input data)

"bwr_dba.rft"

```
 Release Fraction and Timing Name:
 BWR, RG 1.183, Table 1 Section 3.2
 Duration (h):   Design Basis Accident
  0.5000E+00  0.1500E+01  0.0000E+00  0.0000E+00
 Noble Gases:
  0.5000E-01  0.9500E+00  0.0000E+00  0.0000E+00
 Iodine:
  0.5000E-01  0.2500E+00  0.0000E+00  0.0000E+00
 Cesium:
  0.5000E-01  0.2000E+00  0.0000E+00  0.0000E+00
 Tellurium:
  0.0000E+00  0.0500E+00  0.0000E+00  0.0000E+00
 Strontium:
  0.0000E+00  0.2000E-01  0.0000E+00  0.0000E+00
 Barium:
  0.0000E+00  0.2000E-01  0.0000E+00  0.0000E+00
 Ruthenium:
  0.0000E+00  0.2500E-02  0.0000E+00  0.0000E+00
 Cerium:
  0.0000E+00  0.5000E-03  0.0000E+00  0.0000E+00
 Lanthanum:
  0.0000E+00  0.2000E-03  0.0000E+00  0.0000E+00
 Non-Radioactive Aerosols (kg):
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 End of Release File
```

"bwr_i.rft"

```
Release Fraction and Timing Name: Iodine only
 NUREG 1465  BWR
 Duration (h):
  0.5000E+00  1.5000E+00  0.0000E+00  0.0000E+00
 Noble Gases:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Iodine:
  0.0500E+00  0.2500E+00  0.0000E+00  0.0000E+00
 Cesium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Tellurium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Strontium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Barium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Ruthenium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Cerium:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Lanthanum:
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 Non-Radioactive Aerosols (kg):
  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
 End of Release File
```

Attachment 12.8a – MicroShield Output Files (Framatome Fuel)

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE667_Fram.msd	August 7, 2019	4:06:07 PM	00:00:02

Project Info

Case Title	Case 1
Description	Containment Shine CR Dose Rate @ T=0.667 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

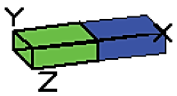
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	3.1400e-005	1.1618e+006	1.4591e-009	5.3986e-005
Ba-137m	1.2487e+002	4.6203e+012	5.8025e-003	2.1469e+002
Ba-139	1.2600e+001	4.6620e+011	5.8549e-004	2.1663e+001
Ba-140	1.7700e+001	6.5490e+011	8.2247e-004	3.0431e+001
Ce-141	4.0600e-001	1.5022e+010	1.8866e-005	6.9803e-001
Ce-143	3.7400e-001	1.3838e+010	1.7379e-005	6.4301e-001
Ce-144	3.4900e-001	1.2913e+010	1.6217e-005	6.0003e-001
Cm-242	7.9900e-003	2.9563e+008	3.7127e-007	1.3737e-002
Cm-244	4.6400e-004	1.7168e+007	2.1561e-008	7.9775e-004
Co-58	6.9300e-003	2.5641e+008	3.2202e-007	1.1915e-002
Co-60	8.3000e-003	3.0710e+008	3.8568e-007	1.4270e-002
Cs-134	1.6700e+002	6.1790e+012	7.7600e-003	2.8712e+002
Cs-136	4.5500e+001	1.6835e+012	2.1143e-003	7.8228e+001
Cs-137	1.3200e+002	4.8840e+012	6.1337e-003	2.2695e+002
I-131	7.1300e+002	2.6381e+013	3.3131e-002	1.2259e+003
I-132	9.1800e+002	3.3966e+013	4.2657e-002	1.5783e+003
I-133	1.4400e+003	5.3280e+013	6.6913e-002	2.4758e+003
I-134	9.6500e+002	3.5705e+013	4.4841e-002	1.6591e+003
I-135	1.3100e+003	4.8470e+013	6.0872e-002	2.2523e+003
Kr-85	4.9600e+001	1.8352e+012	2.3048e-003	8.5277e+001
Kr-85m	6.6600e+002	2.4642e+013	3.0947e-002	1.1450e+003
Kr-87	1.0300e+003	3.8110e+013	4.7861e-002	1.7709e+003
Kr-88	1.7500e+003	6.4750e+013	8.1318e-002	3.0088e+003

La-140	2.2100e-001	8.1770e+009	1.0269e-005	3.7996e-001
La-141	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
La-142	1.1700e-001	4.3290e+009	5.4367e-006	2.0116e-001
Mo-99	2.2500e+000	8.3250e+010	1.0455e-004	3.8684e+000
Nb-95	1.7300e-001	6.4010e+009	8.0388e-006	2.9744e-001
Nd-147	6.5200e-002	2.4124e+009	3.0297e-006	1.1210e-001
Np-239	4.7400e+000	1.7538e+011	2.2025e-004	8.1494e+000
Pr-143	1.4700e-001	5.4390e+009	6.8307e-006	2.5274e-001
Pr-144	3.4401e-001	1.2728e+010	1.5985e-005	5.9145e-001
Pu-238	1.2500e-003	4.6250e+007	5.8084e-008	2.1491e-003
Pu-239	1.1800e-004	4.3660e+006	5.4831e-009	2.0288e-004
Pu-240	2.1700e-004	8.0290e+006	1.0083e-008	3.7309e-004
Pu-241	4.7800e-002	1.7686e+009	2.2211e-006	8.2182e-002
Rb-86	1.2700e+000	4.6990e+010	5.9013e-005	2.1835e+000
Rh-103m	1.9449e+000	7.1960e+010	9.0373e-005	3.3438e+000
Rh-105	1.2800e+000	4.7360e+010	5.9478e-005	2.2007e+000
Rh-106	8.5200e-001	3.1524e+010	3.9590e-005	1.4648e+000
Ru-103	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Ru-105	1.2400e+000	4.5880e+010	5.7619e-005	2.1319e+000
Ru-106	8.5200e-001	3.1524e+010	3.9590e-005	1.4648e+000
Sb-127	2.1500e+000	7.9550e+010	9.9905e-005	3.6965e+000
Sb-129	7.0500e+000	2.6085e+011	3.2759e-004	1.2121e+001
Sr-89	9.4000e+000	3.4780e+011	4.3679e-004	1.6161e+001
Sr-90	1.4800e+000	5.4760e+010	6.8772e-005	2.5445e+000
Sr-91	1.1400e+001	4.2180e+011	5.2973e-004	1.9600e+001
Sr-92	1.0600e+001	3.9220e+011	4.9255e-004	1.8224e+001
Tc-99m	2.0100e+000	7.4370e+010	9.3399e-005	3.4558e+000
Te-127	2.1400e+000	7.9180e+010	9.9440e-005	3.6793e+000
Te-127m	3.6700e-001	1.3579e+010	1.7053e-005	6.3098e-001
Te-129	7.2100e+000	2.6677e+011	3.3503e-004	1.2396e+001
Te-129m	1.5100e+000	5.5870e+010	7.0166e-005	2.5961e+000
Te-131m	4.8300e+000	1.7871e+011	2.2444e-004	8.3042e+000
Te-132	3.4400e+001	1.2728e+012	1.5985e-003	5.9144e+001
Xe-133	5.7500e+003	2.1275e+014	2.6719e-001	9.8859e+003
Xe-135	2.0100e+003	7.4370e+013	9.3399e-002	3.4558e+003
Y-90	1.7000e-002	6.2900e+008	7.8994e-007	2.9228e-002
Y-91	1.2200e-001	4.5140e+009	5.6690e-006	2.0975e-001
Y-92	3.4900e-001	1.2913e+010	1.6217e-005	6.0003e-001
Y-93	9.2400e-002	3.4188e+009	4.2936e-006	1.5886e-001
Zr-95	1.7300e-001	6.4010e+009	8.0388e-006	2.9744e-001
Zr-97	1.6400e-001	6.0680e+009	7.6206e-006	2.8196e-001

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	2.124e+13	0.000e+00	5.653e-24	0.000e+00	4.849e-25	0.000e+00	4.233e-25	0.000e+00	4.233e-27
0.02	1.467e+10	1.522e-271	6.142e-27	5.271e-273	2.127e-28	4.601e-273	1.857e-28	4.601e-275	1.857e-30
0.03	1.112e+14	1.366e-85	1.029e-22	1.354e-87	1.020e-24	1.182e-87	8.905e-25	1.182e-89	8.905e-27
0.04	1.486e+11	3.744e-44	3.648e-25	1.656e-46	1.614e-27	1.445e-46	1.409e-27	1.445e-48	1.409e-29
0.05	1.673e+11	2.692e-28	1.343e-24	7.171e-31	3.578e-27	6.260e-31	3.124e-27	6.260e-33	3.124e-29
0.06	2.146e+11	4.064e-21	1.601e-19	8.072e-24	3.180e-22	7.047e-24	2.776e-22	7.047e-26	2.776e-24
0.08	7.888e+13	1.221e-12	8.615e-11	1.932e-15	1.363e-13	1.686e-15	1.190e-13	1.686e-17	1.190e-15
0.1	3.261e+11	1.368e-12	1.926e-10	2.093e-15	2.947e-13	1.827e-15	2.573e-13	1.827e-17	2.573e-15
0.15	2.308e+13	3.691e-08	9.466e-06	6.078e-11	1.559e-08	5.306e-11	1.361e-08	5.306e-13	1.361e-10
0.2	8.756e+13	2.820e-06	7.811e-04	4.978e-09	1.379e-06	4.346e-09	1.203e-06	4.346e-11	1.203e-08
0.3	9.633e+12	1.220e-05	2.377e-03	2.315e-08	4.509e-06	2.021e-08	3.936e-06	2.021e-10	3.936e-08
0.4	5.083e+13	7.177e-04	9.096e-02	1.398e-06	1.772e-04	1.221e-06	1.547e-04	1.221e-08	1.547e-06
0.5	6.472e+13	5.454e-03	4.752e-01	1.070e-05	9.327e-04	9.345e-06	8.142e-04	9.345e-08	8.142e-06
0.6	7.347e+13	2.515e-02	1.592e+00	4.908e-05	3.107e-03	4.285e-05	2.712e-03	4.285e-07	2.712e-05
0.8	1.239e+14	3.509e-01	1.344e+01	6.674e-04	2.557e-02	5.826e-04	2.232e-02	5.826e-06	2.232e-04
1.0	5.287e+13	7.077e-01	1.858e+01	1.304e-03	3.425e-02	1.139e-03	2.990e-02	1.139e-05	2.990e-04
1.5	5.117e+13	9.189e+00	1.281e+02	1.546e-02	2.156e-01	1.350e-02	1.882e-01	1.350e-04	1.882e-03
2.0	4.993e+13	4.511e+01	4.307e+02	6.976e-02	6.660e-01	6.090e-02	5.814e-01	6.090e-04	5.814e-03
3.0	5.830e+12	3.673e+01	2.207e+02	4.983e-02	2.994e-01	4.350e-02	2.614e-01	4.350e-04	2.614e-03
4.0	1.136e+08	2.266e-03	1.028e-02	2.803e-06	1.272e-05	2.447e-06	1.110e-05	2.447e-08	1.110e-07
Total	**8.051e+14**	**9.212e+01**	**8.137e+02**	**1.371e-01**	**1.245e+00**	**1.197e-01**	**1.087e+00**	**1.197e-03**	**1.087e-02**

MicroShield 10.04

Date	By	Checked

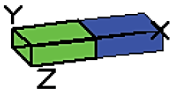
File Name	Run Date	Run Time	Duration
DRE2_Fram.msd	August 4, 2019	9:19:16 PM	00:00:02

Project Info	
Case Title	Case 2
Description	Containment Shine CR Dose Rate @ T= 2 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	5.4000e-004	1.9980e+007	2.5092e-008	9.2842e-004
Ba-137m	4.3421e+002	1.6066e+013	2.0177e-002	7.4654e+002
Ba-139	1.1000e+002	4.0700e+012	5.1114e-003	1.8912e+002
Ba-140	3.0200e+002	1.1174e+013	1.4033e-002	5.1923e+002
Ce-141	6.9700e+000	2.5789e+011	3.2388e-004	1.1983e+001
Ce-143	6.2400e+000	2.3088e+011	2.8996e-004	1.0728e+001
Ce-144	5.9900e+000	2.2163e+011	2.7834e-004	1.0299e+001
Cm-242	1.3700e-001	5.0690e+009	6.3660e-006	2.3554e-001
Cm-244	7.9800e-003	2.9526e+008	3.7081e-007	1.3720e-002
Co-58	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Co-60	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
Cs-134	5.7900e+002	2.1423e+013	2.6905e-002	9.9547e+002
Cs-136	1.5700e+002	5.8090e+012	7.2954e-003	2.6993e+002
Cs-137	4.5900e+002	1.6983e+013	2.1328e-002	7.8915e+002
I-131	3.0200e+003	1.1174e+014	1.4033e-001	5.1923e+003
I-132	3.3600e+003	1.2432e+014	1.5613e-001	5.7768e+003
I-133	5.8800e+003	2.1756e+014	2.7323e-001	1.0109e+004
I-134	1.4300e+003	5.2910e+013	6.6448e-002	2.4586e+003
I-135	4.8500e+003	1.7945e+014	2.2537e-001	8.3386e+003
Kr-85	1.2900e+003	4.7730e+013	5.9943e-002	2.2179e+003
Kr-85m	1.4100e+004	5.2170e+014	6.5519e-001	2.4242e+004
Kr-87	1.2900e+004	4.7730e+014	5.9943e-001	2.2179e+004
Kr-88	3.2700e+004	1.2099e+015	1.5195e+000	5.6221e+004

La-140	7.4400e+000	2.7528e+011	3.4572e-004	1.2792e+001
La-141	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
La-142	1.1000e+000	4.0700e+010	5.1114e-005	1.8912e+000
Mo-99	3.8200e+001	1.4134e+012	1.7751e-003	6.5677e+001
Nb-95	2.9800e+000	1.1026e+011	1.3847e-004	5.1235e+000
Nd-147	1.1200e+000	4.1440e+010	5.2043e-005	1.9256e+000
Np-239	8.0100e+001	2.9637e+012	3.7220e-003	1.3772e+002
Pr-143	2.5300e+000	9.3610e+010	1.1756e-004	4.3498e+000
Pr-144	5.9043e+000	2.1846e+011	2.7436e-004	1.0151e+001
Pu-238	2.1500e-002	7.9550e+008	9.9905e-007	3.6965e-002
Pu-239	2.0300e-003	7.5110e+007	9.4329e-008	3.4902e-003
Pu-240	3.7200e-003	1.3764e+008	1.7286e-007	6.3958e-003
Pu-241	8.2100e-001	3.0377e+010	3.8150e-005	1.4115e+000
Rb-86	4.3800e+000	1.6206e+011	2.0353e-004	7.5305e+000
Rh-103m	3.3412e+001	1.2362e+012	1.5526e-003	5.7445e+001
Rh-105	2.2000e+001	8.1400e+011	1.0223e-003	3.7824e+001
Rh-106	1.4600e+001	5.4020e+011	6.7842e-004	2.5102e+001
Ru-103	3.3500e+001	1.2395e+012	1.5567e-003	5.7596e+001
Ru-105	1.7200e+001	6.3640e+011	7.9924e-004	2.9572e+001
Ru-106	1.4600e+001	5.4020e+011	6.7842e-004	2.5102e+001
Sb-127	3.6500e+001	1.3505e+012	1.6961e-003	6.2754e+001
Sb-129	9.7800e+001	3.6186e+012	4.5445e-003	1.6815e+002
Sr-89	1.6100e+002	5.9570e+012	7.4812e-003	2.7681e+002
Sr-90	2.5400e+001	9.3980e+011	1.1803e-003	4.3670e+001
Sr-91	1.7700e+002	6.5490e+012	8.2247e-003	3.0431e+002
Sr-92	1.3000e+002	4.8100e+012	6.0407e-003	2.2351e+002
Tc-99m	3.4500e+001	1.2765e+012	1.6031e-003	5.9315e+001
Te-127	3.6700e+001	1.3579e+012	1.7053e-003	6.3098e+001
Te-127m	6.3000e+000	2.3310e+011	2.9274e-004	1.0832e+001
Te-129	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002
Te-129m	2.5900e+001	9.5830e+011	1.2035e-003	4.4530e+001
Te-131m	8.0400e+001	2.9748e+012	3.7360e-003	1.3823e+002
Te-132	5.8400e+002	2.1608e+013	2.7137e-002	1.0041e+003
Xe-133	1.4800e+005	5.4760e+015	6.8772e+000	2.5445e+005
Xe-135	5.1500e+004	1.9055e+015	2.3931e+000	8.8543e+004
Y-90	4.8500e-001	1.7945e+010	2.2537e-005	8.3386e-001
Y-91	2.1200e+000	7.8440e+010	9.8511e-005	3.6449e+000
Y-92	2.3400e+001	8.6580e+011	1.0873e-003	4.0231e+001
Y-93	1.4500e+000	5.3650e+010	6.7378e-005	2.4930e+000
Zr-95	2.9700e+000	1.0989e+011	1.3801e-004	5.1063e+000
Zr-97	2.6700e+000	9.8790e+010	1.2407e-004	4.5905e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	4.897e+14	0.000e+00	1.303e-22	0.000e+00	1.118e-23	0.000e+00	9.759e-24	0.000e+00	9.759e-26

0.02	2.505e+11	2.598e-270	1.049e-25	9.001e-272	3.633e-27	7.858e-272	3.172e-27	7.858e-274	3.172e-29
0.03	2.776e+15	3.412e-84	2.571e-21	3.381e-86	2.548e-23	2.952e-86	2.224e-23	2.952e-88	2.224e-25
0.04	7.539e+11	1.900e-43	1.851e-24	8.401e-46	8.188e-27	7.334e-46	7.148e-27	7.334e-48	7.148e-29
0.05	2.841e+12	4.570e-27	2.280e-23	1.217e-29	6.075e-26	1.063e-29	5.303e-26	1.063e-31	5.303e-28
0.06	8.044e+11	1.523e-20	6.001e-19	3.026e-23	1.192e-21	2.642e-23	1.041e-21	2.642e-25	1.041e-23
0.08	2.013e+15	3.115e-11	2.199e-09	4.930e-14	3.479e-12	4.304e-14	3.037e-12	4.304e-16	3.037e-14
0.1	5.644e+12	2.368e-11	3.334e-09	3.623e-14	5.101e-12	3.163e-14	4.453e-12	3.163e-16	4.453e-14
0.15	4.440e+14	7.100e-07	1.821e-04	1.169e-09	2.999e-07	1.021e-09	2.618e-07	1.021e-11	2.618e-09
0.2	2.061e+15	6.639e-05	1.839e-02	1.172e-07	3.245e-05	1.023e-07	2.833e-05	1.023e-09	2.833e-07
0.3	1.004e+14	1.272e-04	2.477e-02	2.412e-07	4.699e-05	2.106e-07	4.102e-05	2.106e-09	4.102e-07
0.4	3.958e+14	5.589e-03	7.083e-01	1.089e-05	1.380e-03	9.506e-06	1.205e-03	9.506e-08	1.205e-05
0.5	2.587e+14	2.180e-02	1.900e+00	4.279e-05	3.729e-03	3.736e-05	3.255e-03	3.736e-07	3.255e-05
0.6	3.033e+14	1.038e-01	6.572e+00	2.027e-04	1.283e-02	1.769e-04	1.120e-02	1.769e-06	1.120e-04
0.8	4.916e+14	1.393e+00	5.335e+01	2.649e-03	1.015e-01	2.312e-03	8.859e-02	2.312e-05	8.859e-04
1.0	2.497e+14	3.342e+00	8.775e+01	6.161e-03	1.618e-01	5.378e-03	1.412e-01	5.378e-05	1.412e-03
1.5	3.669e+14	6.589e+01	9.188e+02	1.109e-01	1.546e+00	9.678e-02	1.350e+00	9.678e-04	1.350e-02
2.0	7.794e+14	7.042e+02	6.723e+03	1.089e+00	1.040e+01	9.507e-01	9.076e+00	9.507e-03	9.076e-02
3.0	7.610e+13	4.794e+02	2.881e+03	6.504e-01	3.908e+00	5.678e-01	3.412e+00	5.678e-03	3.412e-02
4.0	1.068e+09	2.130e-02	9.665e-02	2.635e-05	1.196e-04	2.300e-05	1.044e-04	2.300e-07	1.044e-06
Total	**1.082e+16**	**1.254e+03**	**1.067e+04**	**1.859e+00**	**1.613e+01**	**1.623e+00**	**1.408e+01**	**1.623e-02**	**1.408e-01**

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE4_Fram.msd	August 4, 2019	9:31:15 PM	00:00:02

Project Info

Case Title	Case 3
Description	Containment Shine CR Dose Rate @ T= 4 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

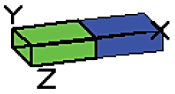
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	6.1100e-004	2.2607e+007	2.8392e-008	1.0505e-003
Ba-137m	4.5503e+002	1.6836e+013	2.1144e-002	7.8232e+002
Ba-139	4.5700e+001	1.6909e+012	2.1236e-003	7.8572e+001
Ba-140	3.4100e+002	1.2617e+013	1.5845e-002	5.8628e+002
Ce-141	7.8800e+000	2.9156e+011	3.6616e-004	1.3548e+001
Ce-143	6.7800e+000	2.5086e+011	3.1505e-004	1.1657e+001
Ce-144	6.7800e+000	2.5086e+011	3.1505e-004	1.1657e+001
Cm-242	1.5500e-001	5.7350e+009	7.2024e-006	2.6649e-001
Cm-244	9.0300e-003	3.3411e+008	4.1960e-007	1.5525e-002
Co-58	1.3500e-001	4.9950e+009	6.2731e-006	2.3210e-001
Co-60	1.6100e-001	5.9570e+009	7.4812e-006	2.7681e-001
Cs-134	6.0600e+002	2.2422e+013	2.8159e-002	1.0419e+003
Cs-136	1.6400e+002	6.0680e+012	7.6206e-003	2.8196e+002
Cs-137	4.8100e+002	1.7797e+013	2.2351e-002	8.2698e+002
I-131	3.8100e+003	1.4097e+014	1.7704e-001	6.5505e+003
I-132	2.7200e+003	1.0064e+014	1.2639e-001	4.6765e+003
I-133	6.9700e+003	2.5789e+014	3.2388e-001	1.1983e+004
I-134	3.7400e+002	1.3838e+013	1.7379e-002	6.4301e+002
I-135	4.9800e+003	1.8426e+014	2.3141e-001	8.5621e+003
Kr-85	4.0600e+003	1.5022e+014	1.8866e-001	6.9803e+003
Kr-85m	3.2600e+004	1.2062e+015	1.5148e+000	5.6049e+004
Kr-87	1.3700e+004	5.0690e+014	6.3660e-001	2.3554e+004
Kr-88	6.3500e+004	2.3495e+015	2.9507e+000	1.0917e+005

La-140	1.9000e+001	7.0300e+011	8.8288e-004	3.2666e+001
La-141	1.5500e+000	5.7350e+010	7.2024e-005	2.6649e+000
La-142	5.0800e-001	1.8796e+010	2.3605e-005	8.7340e-001
Mo-99	4.2400e+001	1.5688e+012	1.9702e-003	7.2898e+001
Nb-95	3.3700e+000	1.2469e+011	1.5659e-004	5.7940e+000
Nd-147	1.2600e+000	4.6620e+010	5.8549e-005	2.1663e+000
Np-239	8.8600e+001	3.2782e+012	4.1170e-003	1.5233e+002
Pr-143	2.8800e+000	1.0656e+011	1.3383e-004	4.9516e+000
Pr-144	6.6830e+000	2.4727e+011	3.1054e-004	1.1490e+001
Pu-238	2.4300e-002	8.9910e+008	1.1292e-006	4.1779e-002
Pu-239	2.3000e-003	8.5100e+007	1.0687e-007	3.9544e-003
Pu-240	4.2100e-003	1.5577e+008	1.9563e-007	7.2382e-003
Pu-241	9.3000e-001	3.4410e+010	4.3215e-005	1.5989e+000
Rb-86	4.5700e+000	1.6909e+011	2.1236e-004	7.8572e+000
Rh-103m	3.7800e+001	1.3986e+012	1.7565e-003	6.4990e+001
Rh-105	2.4600e+001	9.1020e+011	1.1431e-003	4.2295e+001
Rh-106	1.6600e+001	6.1420e+011	7.7136e-004	2.8540e+001
Ru-103	3.7900e+001	1.4023e+012	1.7611e-003	6.5161e+001
Ru-105	1.4300e+001	5.2910e+011	6.6448e-004	2.4586e+001
Ru-106	1.6600e+001	6.1420e+011	7.7136e-004	2.8540e+001
Sb-127	4.0700e+001	1.5059e+012	1.8912e-003	6.9975e+001
Sb-129	8.0400e+001	2.9748e+012	3.7360e-003	1.3823e+002
Sr-89	1.8300e+002	6.7710e+012	8.5035e-003	3.1463e+002
Sr-90	2.8800e+001	1.0656e+012	1.3383e-003	4.9516e+001
Sr-91	1.7300e+002	6.4010e+012	8.0388e-003	2.9744e+002
Sr-92	8.8300e+001	3.2671e+012	4.1031e-003	1.5181e+002
Tc-99m	3.8800e+001	1.4356e+012	1.8029e-003	6.6708e+001
Te-127	4.1500e+001	1.5355e+012	1.9284e-003	7.1351e+001
Te-127m	7.1400e+000	2.6418e+011	3.3178e-004	1.2276e+001
Te-129	1.0200e+002	3.7740e+012	4.7397e-003	1.7537e+002
Te-129m	2.9400e+001	1.0878e+012	1.3661e-003	5.0547e+001
Te-131m	8.6900e+001	3.2153e+012	4.0380e-003	1.4941e+002
Te-132	6.4900e+002	2.4013e+013	3.0157e-002	1.1158e+003
Xe-133	4.6400e+005	1.7168e+016	2.1561e+001	7.9775e+005
Xe-135	1.4400e+005	5.3280e+015	6.6913e+000	2.4758e+005
Y-90	1.1200e+000	4.1440e+010	5.2043e-005	1.9256e+000
Y-91	2.4700e+000	9.1390e+010	1.1477e-004	4.2466e+000
Y-92	5.2600e+001	1.9462e+012	2.4442e-003	9.0435e+001
Y-93	1.4300e+000	5.2910e+010	6.6448e-005	2.4586e+000
Zr-95	3.3600e+000	1.2432e+011	1.5613e-004	5.7768e+000
Zr-97	2.7800e+000	1.0286e+011	1.2918e-004	4.7796e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	1.368e+15	0.000e+00	3.642e-22	0.000e+00	3.123e-23	0.000e+00	2.727e-23	0.000e+00	2.727e-25

0.02	2.807e+11	2.912e-270	1.175e-25	1.009e-271	4.071e-27	8.805e-272	3.554e-27	8.805e-274	3.554e-29
0.03	8.585e+15	1.055e-83	7.949e-21	1.045e-85	7.878e-23	9.127e-86	6.878e-23	9.127e-88	6.878e-25
0.04	7.909e+11	1.993e-43	1.942e-24	8.813e-46	8.589e-27	7.694e-46	7.498e-27	7.694e-48	7.498e-29
0.05	3.157e+12	5.079e-27	2.534e-23	1.353e-29	6.751e-26	1.181e-29	5.894e-26	1.181e-31	5.894e-28
0.06	8.449e+11	1.600e-20	6.303e-19	3.178e-23	1.252e-21	2.775e-23	1.093e-21	2.775e-25	1.093e-23
0.08	6.305e+15	9.756e-11	6.886e-09	1.544e-13	1.090e-11	1.348e-13	9.513e-12	1.348e-15	9.513e-14
0.1	8.231e+12	3.454e-11	4.863e-09	5.284e-14	7.439e-12	4.613e-14	6.495e-12	4.613e-16	6.495e-14
0.15	1.005e+15	1.607e-06	4.120e-04	2.646e-09	6.785e-07	2.310e-09	5.923e-07	2.310e-11	5.923e-09
0.2	5.446e+15	1.754e-04	4.858e-02	3.096e-07	8.575e-05	2.703e-07	7.486e-05	2.703e-09	7.486e-07
0.3	2.009e+14	2.545e-04	4.958e-02	4.827e-07	9.404e-05	4.214e-07	8.210e-05	4.214e-09	8.210e-07
0.4	4.834e+14	6.826e-03	8.650e-01	1.330e-05	1.685e-03	1.161e-05	1.471e-03	1.161e-07	1.471e-05
0.5	2.935e+14	2.473e-02	2.155e+00	4.855e-05	4.230e-03	4.238e-05	3.693e-03	4.238e-07	3.693e-05
0.6	3.741e+14	1.280e-01	8.105e+00	2.499e-04	1.582e-02	2.182e-04	1.381e-02	2.182e-06	1.381e-04
0.8	5.731e+14	1.623e+00	6.219e+01	3.088e-03	1.183e-01	2.695e-03	1.033e-01	2.695e-05	1.033e-03
1.0	3.209e+14	4.295e+00	1.128e+02	7.918e-03	2.079e-01	6.912e-03	1.815e-01	6.912e-05	1.815e-03
1.5	5.608e+14	1.007e+02	1.404e+03	1.695e-01	2.363e+00	1.479e-01	2.063e+00	1.479e-03	2.063e-02
2.0	1.470e+15	1.328e+03	1.268e+04	2.054e+00	1.961e+01	1.793e+00	1.712e+01	1.793e-02	1.712e-01
3.0	8.904e+13	5.609e+02	3.371e+03	7.610e-01	4.573e+00	6.644e-01	3.992e+00	6.644e-03	3.992e-02
4.0	4.934e+08	9.837e-03	4.464e-02	1.217e-05	5.522e-05	1.062e-05	4.821e-05	1.062e-07	4.821e-07
Total	**2.709e+16**	**1.996e+03**	**1.764e+04**	**2.995e+00**	**2.689e+01**	**2.615e+00**	**2.348e+01**	**2.615e-02**	**2.348e-01**

MicroShield 10.04

Date	By	Checked

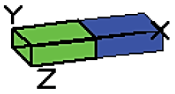
File Name	Run Date	Run Time	Duration
DRE8_Fram.msd	August 4, 2019	9:31:43 PM	00:00:02

Project Info	
Case Title	Case 4
Description	CR Dose Rate From Containment Shine T= 8 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	5.2600e-004	1.9462e+007	2.4442e-008	9.0435e-004
Ba-137m	3.7083e+002	1.3721e+013	1.7232e-002	6.3757e+002
Ba-139	5.2500e+000	1.9425e+011	2.4395e-004	9.0263e+000
Ba-140	2.9000e+002	1.0730e+013	1.3476e-002	4.9859e+002
Ce-141	6.7500e+000	2.4975e+011	3.1365e-004	1.1605e+001
Ce-143	5.3500e+000	1.9795e+011	2.4860e-004	9.1982e+000
Ce-144	5.8200e+000	2.1534e+011	2.7044e-004	1.0006e+001
Cm-242	1.3300e-001	4.9210e+009	6.1801e-006	2.2867e-001
Cm-244	7.7600e-003	2.8712e+008	3.6059e-007	1.3342e-002
Co-58	1.1600e-001	4.2920e+009	5.3902e-006	1.9944e-001
Co-60	1.3900e-001	5.1430e+009	6.4590e-006	2.3898e-001
Cs-134	4.9500e+002	1.8315e+013	2.3001e-002	8.5105e+002
Cs-136	1.3300e+002	4.9210e+012	6.1801e-003	2.2867e+002
Cs-137	3.9200e+002	1.4504e+013	1.8215e-002	6.7396e+002
I-131	4.1800e+003	1.5466e+014	1.9423e-001	7.1866e+003
I-132	1.2900e+003	4.7730e+013	5.9943e-002	2.2179e+003
I-133	6.8000e+003	2.5160e+014	3.1598e-001	1.1691e+004
I-134	1.7600e+001	6.5120e+011	8.1782e-004	3.0259e+001
I-135	3.6500e+003	1.3505e+014	1.6961e-001	6.2754e+003
Kr-85	7.9700e+003	2.9489e+014	3.7034e-001	1.3703e+004
Kr-85m	3.4400e+004	1.2728e+015	1.5985e+000	5.9144e+004
Kr-87	3.0400e+003	1.1248e+014	1.4126e-001	5.2266e+003
Kr-88	4.6900e+004	1.7353e+015	2.1793e+000	8.0635e+004

La-140	3.4400e+001	1.2728e+012	1.5985e-003	5.9144e+001
La-141	6.5700e-001	2.4309e+010	3.0529e-005	1.1296e+000
La-142	7.2200e-002	2.6714e+009	3.3549e-006	1.2413e-001
Mo-99	3.4900e+001	1.2913e+012	1.6217e-003	6.0003e+001
Nb-95	2.8900e+000	1.0693e+011	1.3429e-004	4.9687e+000
Nd-147	1.0700e+000	3.9590e+010	4.9720e-005	1.8396e+000
Np-239	7.2400e+001	2.6788e+012	3.3642e-003	1.2448e+002
Pr-143	2.5000e+000	9.2500e+010	1.1617e-004	4.2982e+000
Pr-144	5.7368e+000	2.1226e+011	2.6657e-004	9.8632e+000
Pu-238	2.0900e-002	7.7330e+008	9.7117e-007	3.5933e-002
Pu-239	1.9800e-003	7.3260e+007	9.2005e-008	3.4042e-003
Pu-240	3.6200e-003	1.3394e+008	1.6821e-007	6.2238e-003
Pu-241	7.9900e-001	2.9563e+010	3.7127e-005	1.3737e+000
Rb-86	3.7100e+000	1.3727e+011	1.7239e-004	6.3786e+000
Rh-103m	3.2415e+001	1.1993e+012	1.5062e-003	5.5730e+001
Rh-105	2.0200e+001	7.4740e+011	9.3864e-004	3.4730e+001
Rh-106	1.4200e+001	5.2540e+011	6.5984e-004	2.4414e+001
Ru-103	3.2500e+001	1.2025e+012	1.5102e-003	5.5877e+001
Ru-105	6.5700e+000	2.4309e+011	3.0529e-004	1.1296e+001
Ru-106	1.4200e+001	5.2540e+011	6.5984e-004	2.4414e+001
Sb-127	3.3900e+001	1.2543e+012	1.5752e-003	5.8284e+001
Sb-129	3.6300e+001	1.3431e+012	1.6868e-003	6.2410e+001
Sr-89	1.5600e+002	5.7720e+012	7.2489e-003	2.6821e+002
Sr-90	2.4700e+001	9.1390e+011	1.1477e-003	4.2466e+001
Sr-91	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002
Sr-92	2.7300e+001	1.0101e+012	1.2686e-003	4.6937e+001
Tc-99m	3.2700e+001	1.2099e+012	1.5195e-003	5.6221e+001
Te-127	3.5300e+001	1.3061e+012	1.6403e-003	6.0691e+001
Te-127m	6.1300e+000	2.2681e+011	2.8484e-004	1.0539e+001
Te-129	5.5900e+001	2.0683e+012	2.5975e-003	9.6108e+001
Te-129m	2.5200e+001	9.3240e+011	1.1710e-003	4.3326e+001
Te-131m	6.8100e+001	2.5197e+012	3.1644e-003	1.1708e+002
Te-132	5.3800e+002	1.9906e+013	2.4999e-002	9.2498e+002
Xe-133	8.9200e+005	3.3004e+016	4.1449e+001	1.5336e+006
Xe-135	2.1100e+005	7.8070e+015	9.8046e+000	3.6277e+005
Y-90	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Y-91	2.2200e+000	8.2140e+010	1.0316e-004	3.8168e+000
Y-92	4.4500e+001	1.6465e+012	2.0678e-003	7.6508e+001
Y-93	9.3300e-001	3.4521e+010	4.3354e-005	1.6041e+000
Zr-95	2.8800e+000	1.0656e+011	1.3383e-004	4.9516e+000
Zr-97	2.0300e+000	7.5110e+010	9.4329e-005	3.4902e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.308e+15	0.000e+00	6.143e-22	0.000e+00	5.269e-23	0.000e+00	4.600e-23	0.000e+00	4.600e-25

0.02	2.361e+11	2.449e-270	9.886e-26	8.484e-272	3.424e-27	7.406e-272	2.989e-27	7.406e-274	2.989e-29
0.03	1.629e+16	2.002e-83	1.508e-20	1.984e-85	1.495e-22	1.732e-85	1.305e-22	1.732e-87	1.305e-24
0.04	6.401e+11	1.613e-43	1.572e-24	7.133e-46	6.951e-27	6.227e-46	6.069e-27	6.227e-48	6.069e-29
0.05	2.617e+12	4.210e-27	2.101e-23	1.122e-29	5.597e-26	9.791e-30	4.886e-26	9.791e-32	4.886e-28
0.06	6.853e+11	1.298e-20	5.112e-19	2.578e-23	1.015e-21	2.250e-23	8.865e-22	2.250e-25	8.865e-24
0.08	1.212e+16	1.875e-10	1.323e-08	2.967e-13	2.094e-11	2.590e-13	1.828e-11	2.590e-15	1.828e-13
0.1	6.362e+12	2.669e-11	3.758e-09	4.084e-14	5.750e-12	3.565e-14	5.020e-12	3.565e-16	5.020e-14
0.15	1.041e+15	1.665e-06	4.272e-04	2.743e-09	7.034e-07	2.394e-09	6.141e-07	2.394e-11	6.141e-09
0.2	7.520e+15	2.422e-04	6.708e-02	4.275e-07	1.184e-04	3.732e-07	1.034e-04	3.732e-09	1.034e-06
0.3	2.052e+14	2.600e-04	5.064e-02	4.931e-07	9.607e-05	4.305e-07	8.387e-05	4.305e-09	8.387e-07
0.4	2.893e+14	4.085e-03	5.177e-01	7.959e-06	1.009e-03	6.948e-06	8.805e-04	6.948e-08	8.805e-06
0.5	2.650e+14	2.233e-02	1.946e+00	4.383e-05	3.819e-03	3.827e-05	3.334e-03	3.827e-07	3.334e-05
0.6	3.620e+14	1.239e-01	7.843e+00	2.418e-04	1.531e-02	2.111e-04	1.336e-02	2.111e-06	1.336e-04
0.8	3.672e+14	1.040e+00	3.984e+01	1.978e-03	7.579e-02	1.727e-03	6.616e-02	1.727e-05	6.616e-04
1.0	2.232e+14	2.987e+00	7.843e+01	5.507e-03	1.446e-01	4.807e-03	1.262e-01	4.807e-05	1.262e-03
1.5	3.978e+14	7.143e+01	9.961e+02	1.202e-01	1.676e+00	1.049e-01	1.463e+00	1.049e-03	1.463e-02
2.0	1.075e+15	9.716e+02	9.276e+03	1.502e+00	1.434e+01	1.312e+00	1.252e+01	1.312e-02	1.252e-01
3.0	2.916e+13	1.837e+02	1.104e+03	2.493e-01	1.498e+00	2.176e-01	1.308e+00	2.176e-03	1.308e-02
4.0	7.012e+07	1.398e-03	6.344e-03	1.730e-06	7.848e-06	1.510e-06	6.851e-06	1.510e-08	6.851e-08
Total	**4.250e+16**	**1.231e+03**	**1.150e+04**	**1.880e+00**	**1.776e+01**	**1.641e+00**	**1.550e+01**	**1.641e-02**	**1.550e-01**

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE16_Fram.msd	August 4, 2019	9:32:08 PM	00:00:02

Project Info

Case Title	Case 5
Description	CR Dose Rate From Containment Shine T= 16 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

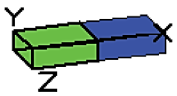
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	4.3700e-004	1.6169e+007	2.0306e-008	7.5133e-004
Ba-137m	2.8475e+002	1.0536e+013	1.3231e-002	4.8956e+002
Ba-139	7.8000e-002	2.8860e+009	3.6244e-006	1.3410e-001
Ba-140	2.3600e+002	8.7320e+012	1.0966e-002	4.0575e+002
Ce-141	5.5600e+000	2.0572e+011	2.5836e-004	9.5592e+000
Ce-143	3.7500e+000	1.3875e+011	1.7425e-004	6.4473e+000
Ce-144	4.8300e+000	1.7871e+011	2.2444e-004	8.3042e+000
Cm-242	1.1000e-001	4.0700e+009	5.1114e-006	1.8912e-001
Cm-244	6.4400e-003	2.3828e+008	2.9925e-007	1.1072e-002
Co-58	9.5500e-002	3.5335e+009	4.4376e-006	1.6419e-001
Co-60	1.1500e-001	4.2550e+009	5.3437e-006	1.9772e-001
Cs-134	3.7900e+002	1.4023e+013	1.7611e-002	6.5161e+002
Cs-136	1.0000e+002	3.7000e+012	4.6467e-003	1.7193e+002
Cs-137	3.0100e+002	1.1137e+013	1.3987e-002	5.1751e+002
I-131	4.4800e+003	1.6576e+014	2.0817e-001	7.7024e+003
I-132	5.4700e+002	2.0239e+013	2.5418e-002	9.4045e+002
I-133	5.7400e+003	2.1238e+014	2.6672e-001	9.8687e+003
I-134	3.4800e-002	1.2876e+009	1.6171e-006	5.9831e-002
I-135	1.7400e+003	6.4380e+013	8.0853e-002	2.9916e+003
Kr-85	1.1900e+004	4.4030e+014	5.5296e-001	2.0460e+004
Kr-85m	1.4900e+004	5.5130e+014	6.9236e-001	2.5617e+004
Kr-87	5.7800e+001	2.1386e+012	2.6858e-003	9.9375e+001
Kr-88	9.9200e+003	3.6704e+014	4.6096e-001	1.7055e+004

La-140	5.5300e+001	2.0461e+012	2.5696e-003	9.5077e+001
La-141	1.3300e-001	4.9210e+009	6.1801e-006	2.2867e-001
La-142	1.6400e-003	6.0680e+007	7.6206e-008	2.8196e-003
Mo-99	2.6600e+001	9.8420e+011	1.2360e-003	4.5733e+001
Nb-95	2.4000e+000	8.8800e+010	1.1152e-004	4.1263e+000
Nd-147	8.6800e-001	3.2116e+010	4.0334e-005	1.4923e+000
Np-239	5.4500e+001	2.0165e+012	2.5325e-003	9.3701e+001
Pr-143	2.1100e+000	7.8070e+010	9.8046e-005	3.6277e+000
Pr-144	4.7609e+000	1.7615e+011	2.2123e-004	8.1854e+000
Pu-238	1.7300e-002	6.4010e+008	8.0388e-007	2.9744e-002
Pu-239	1.6400e-003	6.0680e+007	7.6206e-008	2.8196e-003
Pu-240	3.0000e-003	1.1100e+008	1.3940e-007	5.1579e-003
Pu-241	6.6300e-001	2.4531e+010	3.0808e-005	1.1399e+000
Rb-86	2.8100e+000	1.0397e+011	1.3057e-004	4.8312e+000
Rh-103m	2.6730e+001	9.8899e+011	1.2420e-003	4.5956e+001
Rh-105	1.4800e+001	5.4760e+011	6.8772e-004	2.5445e+001
Rh-106	1.1800e+001	4.3660e+011	5.4831e-004	2.0288e+001
Ru-103	2.6800e+001	9.9160e+011	1.2453e-003	4.6077e+001
Ru-105	1.5600e+000	5.7720e+010	7.2489e-005	2.6821e+000
Ru-106	1.1800e+001	4.3660e+011	5.4831e-004	2.0288e+001
Sb-127	2.6500e+001	9.8050e+011	1.2314e-003	4.5561e+001
Sb-129	8.3500e+000	3.0895e+011	3.8800e-004	1.4356e+001
Sr-89	1.2900e+002	4.7730e+012	5.9943e-003	2.2179e+002
Sr-90	2.0500e+001	7.5850e+011	9.5258e-004	3.5245e+001
Sr-91	5.1500e+001	1.9055e+012	2.3931e-003	8.8543e+001
Sr-92	2.9200e+000	1.0804e+011	1.3568e-004	5.0203e+000
Tc-99m	2.5900e+001	9.5830e+011	1.2035e-003	4.4530e+001
Te-127	2.8600e+001	1.0582e+012	1.3290e-003	4.9172e+001
Te-127m	5.0900e+000	1.8833e+011	2.3652e-004	8.7512e+000
Te-129	2.8400e+001	1.0508e+012	1.3197e-003	4.8828e+001
Te-129m	2.0800e+001	7.6960e+011	9.6652e-004	3.5761e+001
Te-131m	4.7000e+001	1.7390e+012	2.1840e-003	8.0807e+001
Te-132	4.1600e+002	1.5392e+013	1.9330e-002	7.1522e+002
Xe-133	1.2700e+006	4.6990e+016	5.9013e+001	2.1835e+006
Xe-135	1.7100e+005	6.3270e+015	7.9459e+000	2.9400e+005
Y-90	3.1700e+000	1.1729e+011	1.4730e-004	5.4501e+000
Y-91	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Y-92	1.3700e+001	5.0690e+011	6.3660e-004	2.3554e+001
Y-93	4.4700e-001	1.6539e+010	2.0771e-005	7.6852e-001
Zr-95	2.3800e+000	8.8060e+010	1.1059e-004	4.0919e+000
Zr-97	1.2100e+000	4.4770e+010	5.6225e-005	2.0803e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	2.997e+15	0.000e+00	7.976e-22	0.000e+00	6.842e-23	0.000e+00	5.973e-23	0.000e+00	5.973e-25
0.02	1.882e+11	1.952e-270	7.880e-26	6.762e-272	2.730e-27	5.904e-272	2.383e-27	5.904e-274	2.383e-29
0.03	2.289e+16	2.813e-83	2.120e-20	2.788e-85	2.101e-22	2.434e-85	1.834e-22	2.434e-87	1.834e-24
0.04	4.892e+11	1.233e-43	1.201e-24	5.452e-46	5.313e-27	4.759e-46	4.638e-27	4.759e-48	4.638e-29
0.05	2.024e+12	3.256e-27	1.625e-23	8.673e-30	4.328e-26	7.572e-30	3.778e-26	7.572e-32	3.778e-28
0.06	5.147e+11	9.748e-21	3.840e-19	1.936e-23	7.627e-22	1.690e-23	6.658e-22	1.690e-25	6.658e-24
0.08	1.725e+16	2.669e-10	1.884e-08	4.224e-13	2.981e-11	3.688e-13	2.603e-11	3.688e-15	2.603e-13
0.1	2.940e+12	1.234e-11	1.737e-09	1.887e-14	2.657e-12	1.648e-14	2.320e-12	1.648e-16	2.320e-14
0.15	4.486e+14	7.174e-07	1.840e-04	1.181e-09	3.030e-07	1.031e-09	2.645e-07	1.031e-11	2.645e-09
0.2	5.834e+15	1.879e-04	5.204e-02	3.317e-07	9.185e-05	2.896e-07	8.019e-05	2.896e-09	8.019e-07
0.3	9.701e+13	1.229e-04	2.394e-02	2.331e-07	4.541e-05	2.035e-07	3.964e-05	2.035e-09	3.964e-07
0.4	1.890e+14	2.668e-03	3.381e-01	5.199e-06	6.589e-04	4.539e-06	5.752e-04	4.539e-08	5.752e-06
0.5	2.082e+14	1.754e-02	1.528e+00	3.443e-05	3.000e-03	3.006e-05	2.619e-03	3.006e-07	2.619e-05
0.6	2.663e+14	9.114e-02	5.769e+00	1.779e-04	1.126e-02	1.553e-04	9.830e-03	1.553e-06	9.830e-05
0.8	1.174e+14	3.326e-01	1.274e+01	6.327e-04	2.424e-02	5.523e-04	2.116e-02	5.523e-06	2.116e-04
1.0	7.245e+13	9.697e-01	2.546e+01	1.787e-03	4.693e-02	1.560e-03	4.097e-02	1.560e-05	4.097e-04
1.5	1.101e+14	1.977e+01	2.756e+02	3.325e-02	4.637e-01	2.903e-02	4.048e-01	2.903e-04	4.048e-03
2.0	2.311e+14	2.088e+02	1.993e+03	3.229e-01	3.082e+00	2.819e-01	2.691e+00	2.819e-03	2.691e-02
3.0	3.204e+12	2.018e+01	1.213e+02	2.738e-02	1.645e-01	2.391e-02	1.436e-01	2.391e-04	1.436e-03
4.0	1.593e+06	3.176e-05	1.441e-04	3.929e-08	1.783e-07	3.430e-08	1.556e-07	3.430e-10	1.556e-09
Total	**5.072e+16**	**2.501e+02**	**2.436e+03**	**3.861e-01**	**3.797e+00**	**3.371e-01**	**3.315e+00**	**3.371e-03**	**3.315e-02**

MicroShield 10.04

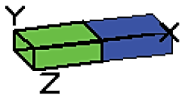
Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE24_Fram.msd	August 4, 2019	9:32:31 PM	00:00:02

Project Info	
Case Title	Case 6
Description	CR Dose Rate From Containment Shine T= 24 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)



Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122

Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	4.0000e-004	1.4800e+007	1.8587e-008	6.8772e-004
Ba-137m	2.4974e+002	9.2405e+012	1.1605e-002	4.2938e+002
Ba-139	1.2800e-003	4.7360e+007	5.9478e-008	2.2007e-003
Ba-140	2.1200e+002	7.8440e+012	9.8511e-003	3.6449e+002
Ce-141	5.0500e+000	1.8685e+011	2.3466e-004	8.6824e+000
Ce-143	2.9000e+000	1.0730e+011	1.3476e-004	4.9859e+000
Ce-144	4.4100e+000	1.6317e+011	2.0492e-004	7.5821e+000
Cm-242	1.0100e-001	3.7370e+009	4.6932e-006	1.7365e-001
Cm-244	5.8800e-003	2.1756e+008	2.7323e-007	1.0109e-002
Co-58	8.7000e-002	3.2190e+009	4.0427e-006	1.4958e-001
Co-60	1.0500e-001	3.8850e+009	4.8791e-006	1.8053e-001
Cs-134	3.3200e+002	1.2284e+013	1.5427e-002	5.7080e+002
Cs-136	8.6100e+001	3.1857e+012	4.0008e-003	1.4803e+002
Cs-137	2.6400e+002	9.7680e+012	1.2267e-002	4.5389e+002
I-131	4.5000e+003	1.6650e+014	2.0910e-001	7.7368e+003
I-132	4.2800e+002	1.5836e+013	1.9888e-002	7.3586e+002
I-133	4.5500e+003	1.6835e+014	2.1143e-001	7.8228e+003
I-134	6.4300e-005	2.3791e+006	2.9878e-009	1.1055e-004
I-135	7.7700e+002	2.8749e+013	3.6105e-002	1.3359e+003
Kr-85	1.3300e+004	4.9210e+014	6.1801e-001	2.2867e+004
Kr-85m	4.8400e+003	1.7908e+014	2.2490e-001	8.3214e+003

Kr-87	8.2800e-001	3.0636e+010	3.8475e-005	1.4236e+000
Kr-88	1.5800e+003	5.8460e+013	7.3418e-002	2.7165e+003
La-140	7.1700e+001	2.6529e+012	3.3317e-003	1.2327e+002
La-141	2.9600e-002	1.0952e+009	1.3754e-006	5.0891e-002
La-142	4.1100e-005	1.5207e+006	1.9098e-009	7.0663e-005
Mo-99	2.2400e+001	8.2880e+011	1.0409e-003	3.8512e+001
Nb-95	2.1900e+000	8.1030e+010	1.0176e-004	3.7652e+000
Nd-147	7.7700e-001	2.8749e+010	3.6105e-005	1.3359e+000
Np-239	4.5200e+001	1.6724e+012	2.1003e-003	7.7712e+001
Pr-143	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Pr-144	4.3469e+000	1.6084e+011	2.0199e-004	7.4736e+000
Pu-238	1.5900e-002	5.8830e+008	7.3883e-007	2.7337e-002
Pu-239	1.5000e-003	5.5500e+007	6.9701e-008	2.5789e-003
Pu-240	2.7400e-003	1.0138e+008	1.2732e-007	4.7109e-003
Pu-241	6.0600e-001	2.2422e+010	2.8159e-005	1.0419e+000
Rb-86	2.4300e+000	8.9910e+010	1.1292e-004	4.1779e+000
Rh-103m	2.4236e+001	8.9674e+011	1.1262e-003	4.1669e+001
Rh-105	1.1700e+001	4.3290e+011	5.4367e-004	2.0116e+001
Rh-106	1.0800e+001	3.9960e+011	5.0185e-004	1.8568e+001
Ru-103	2.4300e+001	8.9910e+011	1.1292e-003	4.1779e+001
Ru-105	4.1000e-001	1.5170e+010	1.9052e-005	7.0491e-001
Ru-106	1.0800e+001	3.9960e+011	5.0185e-004	1.8568e+001
Sb-127	2.2800e+001	8.4360e+011	1.0595e-003	3.9200e+001
Sb-129	2.1200e+000	7.8440e+010	9.8511e-005	3.6449e+000
Sr-89	1.1800e+002	4.3660e+012	5.4831e-003	2.0288e+002
Sr-90	1.8800e+001	6.9560e+011	8.7358e-004	3.2323e+001
Sr-91	2.6300e+001	9.7310e+011	1.2221e-003	4.5217e+001
Sr-92	3.4500e-001	1.2765e+010	1.6031e-005	5.9315e-001
Tc-99m	2.2400e+001	8.2880e+011	1.0409e-003	3.8512e+001
Te-127	2.5500e+001	9.4350e+011	1.1849e-003	4.3842e+001
Te-127m	4.6500e+000	1.7205e+011	2.1607e-004	7.9947e+000
Te-129	1.9300e+001	7.1410e+011	8.9682e-004	3.3182e+001
Te-129m	1.8900e+001	6.9930e+011	8.7823e-004	3.2495e+001
Te-131m	3.5700e+001	1.3209e+012	1.6589e-003	6.1379e+001
Te-132	3.5400e+002	1.3098e+013	1.6449e-002	6.0863e+002
Xe-133	1.3600e+006	5.0320e+016	6.3195e+001	2.3382e+006
Xe-135	1.0500e+005	3.8850e+015	4.8791e+000	1.8053e+005
Y-90	4.2200e+000	1.5614e+011	1.9609e-004	7.2554e+000
Y-91	1.8300e+000	6.7710e+010	8.5035e-005	3.1463e+000
Y-92	3.3700e+000	1.2469e+011	1.5659e-004	5.7940e+000
Y-93	2.3600e-001	8.7320e+009	1.0966e-005	4.0575e-001
Zr-95	2.1700e+000	8.0290e+010	1.0083e-004	3.7309e+000
Zr-97	7.9800e-001	2.9526e+010	3.7081e-005	1.3720e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	3.137e+15	0.000e+00	8.347e-22	0.000e+00	7.160e-23	0.000e+00	6.250e-23	0.000e+00	6.250e-25
0.02	1.652e+11	1.714e-270	6.920e-26	5.938e-272	2.397e-27	5.184e-272	2.093e-27	5.184e-274	2.093e-29
0.03	2.436e+16	2.993e-83	2.255e-20	2.966e-85	2.235e-22	2.589e-85	1.951e-22	2.589e-87	1.951e-24
0.04	4.232e+11	1.066e-43	1.039e-24	4.716e-46	4.596e-27	4.117e-46	4.012e-27	4.117e-48	4.012e-29
0.05	1.722e+12	2.771e-27	1.383e-23	7.381e-30	3.683e-26	6.444e-30	3.216e-26	6.444e-32	3.216e-28
0.06	4.411e+11	8.353e-21	3.290e-19	1.659e-23	6.536e-22	1.448e-23	5.706e-22	1.448e-25	5.706e-24
0.08	1.847e+16	2.858e-10	2.017e-08	4.523e-13	3.193e-11	3.949e-13	2.787e-11	3.949e-15	2.787e-13
0.1	1.959e+12	8.219e-12	1.157e-09	1.257e-14	1.770e-12	1.098e-14	1.546e-12	1.098e-16	1.546e-14
0.15	1.503e+14	2.404e-07	6.167e-05	3.959e-10	1.016e-07	3.457e-10	8.866e-08	3.457e-12	8.866e-10
0.2	3.557e+15	1.146e-04	3.173e-02	2.022e-07	5.600e-05	1.765e-07	4.889e-05	1.765e-09	4.889e-07
0.3	4.212e+13	5.335e-05	1.039e-02	1.012e-07	1.972e-05	8.835e-08	1.721e-05	8.835e-10	1.721e-07
0.4	1.628e+14	2.299e-03	2.914e-01	4.480e-06	5.677e-04	3.911e-06	4.956e-04	3.911e-08	4.956e-06
0.5	1.632e+14	1.375e-02	1.198e+00	2.699e-05	2.351e-03	2.356e-05	2.053e-03	2.356e-07	2.053e-05
0.6	1.797e+14	6.151e-02	3.893e+00	1.201e-04	7.599e-03	1.048e-04	6.634e-03	1.048e-06	6.634e-05
0.8	5.945e+13	1.684e-01	6.452e+00	3.203e-04	1.227e-02	2.797e-04	1.071e-02	2.797e-06	1.071e-04
1.0	2.986e+13	3.997e-01	1.049e+01	7.367e-04	1.934e-02	6.432e-04	1.689e-02	6.432e-06	1.689e-04
1.5	3.539e+13	6.356e+00	8.862e+01	1.069e-02	1.491e-01	9.335e-03	1.302e-01	9.335e-05	1.302e-03
2.0	3.931e+13	3.552e+01	3.391e+02	5.492e-02	5.243e-01	4.795e-02	4.577e-01	4.795e-04	4.577e-03
3.0	5.498e+11	3.464e+00	2.081e+01	4.699e-03	2.824e-02	4.102e-03	2.465e-02	4.102e-05	2.465e-04
4.0	3.992e+04	7.959e-07	3.611e-06	9.846e-10	4.468e-09	8.595e-10	3.900e-09	8.595e-12	3.900e-11
Total	**5.039e+16**	**4.598e+01**	**4.709e+02**	**7.152e-02**	**7.439e-01**	**6.244e-02**	**6.494e-01**	**6.244e-04**	**6.494e-03**

Attachment 12.1b - RADTRAD Output File "DRE3CL395_West.o0" (Westinghouse Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:16:46
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3CL395_West.psf
 Inventory file       = c:\users\jhead\desktop\dresden_loca\westinghouse\dq39gwd_def.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3  Containment Leakage - Fuel Burnup = 39 GWD/MTU, Containment Leakage = 3 %/day,
CREV Initiated @ 40 Minutes, Reduction In Containment Leakage After 24 hrs, and CR Unfiltered
Inleakage = 4,000 cfm < 0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 c:\users\jhead\desktop\dresden_loca\westinghouse\dq39gwd_def.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   5
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
```

```
Compartment 4:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 5:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
Sprayed Drywell to Reactor Building
  1
  2
  4
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
Pathway 6:
Sprayed Drywell to Unsprayed Drywell
  1
  5
  2
Pathway 7:
Unsprayed Drywell to Sprayed Drywell
  5
  1
  2
Pathway 8:
UnSprayed Drywell to Reactor Building
  5
  2
  4
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
```

```
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  5
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
```

```
  0
  0
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

```
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  2
```

```
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
```

```
  8.0000E+00   2.3400E-06
  2.4000E+01   9.3900E-07
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
  8
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3CL395_West.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:16:46
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth
```

```
Number of compartments    =   5

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number   7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Sprayed Drywell to Reactor Building
   Exit Pathway Number    6: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Sprayed Drywell to Reactor Building
   Inlet Pathway Number   8: UnSprayed Drywell to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
   Exit Pathway Number    5: Control Room Exhaust to Environment

Compartment number  5
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number    7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    8: UnSprayed Drywell to Reactor Building

Total number of pathways =   8
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:16:46
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.433E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.603E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        4.865E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.482E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.714E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        3.979E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.508E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.379E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        8.763E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.609E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   7.427E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.436E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   2.022E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   6.465E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.715E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   3.747E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.382E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.647E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   3.846E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.481E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.647E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   4.178E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.609E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.575E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.642E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.106E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.476E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.077E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.890E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.901E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.974E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.819E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.957E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   3.979E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.687E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.290E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   3.945E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.846E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.702E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.912E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.537E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.101E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.172E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: Reactor Building

Compartment number   3: Environment

Compartment number   4: Control Room

Compartment number   5: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Sprayed Drywell to Reactor Building

     Convection Data
      Time (hr)          Flow Rate (% / day)
       0.0000E+00              0.0000E+00
       3.3300E-02              3.0000E+00
       2.4000E+01              1.5000E+00
       7.2000E+02              0.0000E+00

Pathway number  2: Reactor Building to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       4.1700E-01    4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  3: Filtered Intake to Control Room

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       2.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       4.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       8.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: UnSprayed Drywell to Reactor Building

Convection Data

Time (hr)	Flow Rate (% / day)
0.0000E+00	0.0000E+00
3.3300E-02	3.0000E+00
2.4000E+01	1.5000E+00
7.2000E+02	0.0000E+00

LOCATION DATA

```
     Location Exclusion Area Boundary     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       4.1700E-01          8.7400E-05
       5.0000E-01          6.7400E-06
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Low Population Zone     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       4.1700E-01          1.5500E-05
       5.0000E-01          8.3000E-06
       2.0000E+00          3.5700E-06
       8.0000E+00          2.3400E-06
       2.4000E+01          9.3900E-07
       9.6000E+01          2.5300E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       8.0000E+00                1.8000E-04
       2.4000E+01                2.3000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   4

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:16:46
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.5010E+22  0.0000E+00
Elemental I (atoms)    6.2717E+20  0.0000E+00
Organic I (atoms)      1.9397E+19  0.0000E+00
Aerosols (kg)          6.3696E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3888E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7724E-04
Total I (Ci)                                   2.2821E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1131E+21
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Elemental I (atoms)    0.0000E+00  1.3953E+19
Organic I (atoms)      0.0000E+00  4.3155E+17
Aerosols (kg)          0.0000E+00  1.4166E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6293E+19
Elemental I (atoms)    0.0000E+00  3.0567E+17
Organic I (atoms)      0.0000E+00  9.4538E+15
Aerosols (kg)          0.0000E+00  3.1035E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1466E-04  1.1106E-01  5.5443E-03
Accumulated dose (rem)  6.1466E-04  1.1106E-01  5.5443E-03

Low Population Zone Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.4405E-05  1.1637E-02  5.8093E-04
Accumulated dose (rem)  6.4405E-05  1.1637E-02  5.8093E-04

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
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Delta dose (rem)        9.4185E-06  4.3901E-02  1.9580E-03
Accumulated dose (rem)  9.4185E-06  4.3901E-02  1.9580E-03

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.1024E+04  5.3587E-02  3.7966E+23  2.5389E+17
Kr-85m                 3.3016E+05  4.0119E-05  2.8424E+20  4.0231E+18
Kr-87                  5.9814E+05  2.1117E-05  1.4617E+20  7.4570E+18
Kr-88                  8.8556E+05  7.0624E-05  4.8330E+20  1.0847E+19
Rb-86                  2.9483E+03  3.6234E-05  2.5373E+20  3.5607E+16
I-131                  1.2318E+06  9.9361E-03  4.5677E+22  1.4879E+19
I-132                  1.7386E+06  1.6843E-04  7.6842E+20  2.1190E+19
I-133                  2.5117E+06  2.2172E-03  1.0040E+22  3.0391E+19
I-134                  2.4393E+06  9.1440E-05  4.1094E+20  3.0856E+19
I-135                  2.3183E+06  6.6014E-04  2.9448E+21  2.8168E+19
Xe-133                 2.4199E+06  1.2928E-02  5.8537E+22  2.9222E+19
Xe-135                 1.0137E+06  3.9696E-04  1.7708E+21  1.2181E+19
Cs-134                 3.6446E+05  2.8169E-01  1.2660E+24  4.4013E+18
Cs-136                 8.9054E+04  1.2151E-03  5.3804E+21  1.0756E+18
Cs-137                 2.3141E+05  2.6604E+00  1.1694E+25  2.7945E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.4088E+23  0.0000E+00
Elemental I (atoms)    2.9023E+21  0.0000E+00
Organic I (atoms)      8.9761E+19  0.0000E+00
Aerosols (kg)          2.9558E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.4303E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1795E-04
Total I (Ci)                                   1.0240E+07

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      4.5370E+19
Elemental I (atoms)      2.9902E+17
Organic I (atoms)        9.2481E+15
Aerosols (kg)            3.0417E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0253E+22
Elemental I (atoms)    0.0000E+00  3.3123E+20
Organic I (atoms)      0.0000E+00  1.0244E+19
Aerosols (kg)          0.0000E+00  3.3690E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2261E+21
Elemental I (atoms)    0.0000E+00  3.4434E+19
Organic I (atoms)      0.0000E+00  1.0650E+18
Aerosols (kg)          0.0000E+00  3.5036E-02

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.3038E+00  5.8721E-06  4.1603E+19  1.7451E+13
Kr-85m                 3.6179E+01  4.3962E-09  3.1147E+16  2.7573E+14
Kr-87                  6.5545E+01  2.3140E-09  1.6017E+16  5.0738E+14
Kr-88                  9.7041E+01  7.7390E-09  5.2961E+16  7.4222E+14
Rb-86                  3.2307E-01  3.9705E-09  2.7804E+16  2.4474E+12
I-131                  1.3498E+02  1.0888E-06  5.0052E+18  1.0226E+15
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I-132                  1.8892E+02  1.8302E-08  8.3498E+16  1.4434E+15
I-133                  2.7524E+02  2.4297E-07  1.1001E+18  2.0876E+15
I-134                  2.6730E+02  1.0020E-08  4.5032E+16  2.0897E+15
I-135                  2.5405E+02  7.2339E-08  3.2269E+17  1.9323E+15
Xe-133                 2.6518E+02  1.4167E-06  6.4146E+18  2.0086E+15
Xe-135                 1.1108E+02  4.3499E-08  1.9404E+17  8.3842E+14
Cs-134                 3.9938E+01  3.0868E-05  1.3873E+20  3.0252E+14
Cs-136                 9.7586E+00  1.3315E-07  5.8959E+17  7.3926E+13
Cs-137                 2.5358E+01  2.9153E-04  1.2815E+21  1.9208E+14

Reactor Building Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.8312E+19  0.0000E+00
Elemental I (atoms)    3.1800E+17  0.0000E+00
Organic I (atoms)      9.8349E+15  0.0000E+00
Aerosols (kg)          3.2389E-04  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.9749E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.7835E-09
Total I (Ci)                                   1.1205E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      4.5370E+19
Elemental I (atoms)      2.9902E+17
Organic I (atoms)        9.2481E+15
Aerosols (kg)            3.0417E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9451E+17
Elemental I (atoms)    0.0000E+00  1.9403E+15
Organic I (atoms)      0.0000E+00  6.0010E+13
Aerosols (kg)          0.0000E+00  1.9745E-06

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      3.2374E+18
Elemental I (atoms)      2.1330E+16
Organic I (atoms)        6.5969E+14
Aerosols (kg)            2.1704E-05

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.3109E-03  1.1234E+00  5.6171E-02
Accumulated dose (rem)  6.9255E-03  1.2344E+00  6.1715E-02

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.6126E-04  1.1771E-01  5.8856E-03
Accumulated dose (rem)  7.2566E-04  1.2934E-01  6.4665E-03

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4951E-04  1.1849E+00  5.2845E-02
Accumulated dose (rem)  2.5893E-04  1.2288E+00  5.4803E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
Kr-85                  4.7344E+04  1.2067E-01  8.5495E+23  1.4232E+18
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Kr-85m	7.1524E+05	8.6911E-05	6.1575E+20	2.1991E+19
Kr-87	1.1752E+06	4.1488E-05	2.8718E+20	3.8290E+19
Kr-88	1.8760E+06	1.4961E-04	1.0238E+21	5.8444E+19
Rb-86	1.2909E+03	1.5865E-05	1.1110E+20	8.9925E+16
I-131	5.4249E+05	4.3758E-03	2.0116E+22	3.7638E+19
I-132	7.6567E+05	7.4178E-05	3.3842E+20	5.3281E+19
I-133	1.0978E+06	9.6913E-04	4.3881E+21	7.6645E+19
I-134	8.8208E+05	3.3066E-05	1.4860E+20	7.2264E+19
I-135	9.9533E+05	2.8342E-04	1.2643E+21	7.0528E+19
Xe-133	5.4460E+06	2.9095E-02	1.3174E+23	1.6376E+20
Xe-135	2.2850E+06	8.9476E-04	3.9914E+21	6.8623E+19
Cs-134	1.5964E+05	1.2339E-01	5.5452E+23	1.1117E+19
Cs-136	3.8986E+04	5.3194E-04	2.3555E+21	2.7162E+18
Cs-137	1.0136E+05	1.1653E+00	5.1224E+24	7.0586E+18

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.4170	Atmosphere	Sump	
Noble gases (atoms)	9.9260E+23	0.0000E+00	
Elemental I (atoms)	1.2655E+21	6.1253E+21	
Organic I (atoms)	2.0112E+20	0.0000E+00	
Aerosols (kg)	1.2947E+00	6.2501E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8232E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5738E-04
Total I (Ci)			4.2834E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.4170 Leakage Transport

Noble gases (atoms)	2.7207E+20
Elemental I (atoms)	8.0946E+17
Organic I (atoms)	5.5281E+16
Aerosols (kg)	8.2501E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9079E+23
Elemental I (atoms)	0.0000E+00	8.7284E+20
Organic I (atoms)	0.0000E+00	5.9088E+19
Aerosols (kg)	0.0000E+00	8.8954E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8285E+22
Elemental I (atoms)	0.0000E+00	2.7978E+20
Organic I (atoms)	0.0000E+00	1.3863E+19
Aerosols (kg)	0.0000E+00	2.8562E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
Kr-85	1.4770E+01	3.7647E-05	2.6672E+20	2.8106E+14
Kr-85m	2.2313E+02	2.7114E-08	1.9210E+17	4.3153E+15
Kr-87	3.6662E+02	1.2943E-08	8.9592E+16	7.3908E+15
Kr-88	5.8527E+02	4.6675E-08	3.1941E+17	1.1426E+16
Rb-86	9.7848E-01	1.2025E-08	8.4208E+16	2.5532E+13
I-131	4.0930E+02	3.3015E-06	1.5177E+19	1.0674E+16
I-132	5.4397E+02	5.2699E-08	2.4042E+17	1.4553E+16
I-133	8.2838E+02	7.3126E-07	3.3111E+18	2.1682E+16
I-134	6.6558E+02	2.4950E-08	1.1213E+17	1.9179E+16
I-135	7.5103E+02	2.1386E-07	9.5398E+17	1.9833E+16
Xe-133	1.6991E+03	9.0775E-06	4.1102E+19	3.2342E+16
Xe-135	7.1450E+02	2.7979E-07	1.2481E+18	1.3591E+16
Cs-134	1.2100E+02	9.3525E-05	4.2031E+20	3.1569E+15

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Cs-136                 2.9551E+01  4.0320E-07  1.7854E+18  7.7115E+14
Cs-137                 7.6829E+01  8.8328E-04  3.8827E+21  2.0044E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    3.0967E+20  0.0000E+00
Elemental I (atoms)    9.5845E+17  0.0000E+00
Organic I (atoms)      6.2725E+16  0.0000E+00
Aerosols (kg)          9.8132E-04  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         8.9909E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1366E-08
Total I (Ci)                                   3.1983E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      2.7207E+20
Elemental I (atoms)      8.0946E+17
Organic I (atoms)        5.5281E+16
Aerosols (kg)            8.2501E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0119E+18
Elemental I (atoms)    0.0000E+00  2.1533E+16
Organic I (atoms)      0.0000E+00  1.0173E+15
Aerosols (kg)          0.0000E+00  2.1990E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      4.2649E+19
Elemental I (atoms)      1.7467E+17
Organic I (atoms)        8.6587E+15
Aerosols (kg)            1.7832E-04

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.5175E-04  4.9253E-03  5.5956E-04
Accumulated dose (rem)  7.2773E-03  1.2393E+00  6.2274E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.2381E-05  8.7347E-04  9.9236E-05
Accumulated dose (rem)  7.8805E-04  1.3022E-01  6.5658E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2899E-04  6.1277E-01  2.7330E-02
Accumulated dose (rem)  3.8791E-04  1.8415E+00  8.2134E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.5281E+04  1.4090E-01  9.9828E+23  1.9959E+18
Kr-85m                 8.2449E+05  1.0019E-04  7.0981E+20  3.0586E+19
Kr-87                  1.3115E+06  4.6300E-05  3.2049E+20  5.2181E+19
Kr-88                  2.1466E+06  1.7119E-04  1.1715E+21  8.0903E+19
Rb-86                  1.2753E+03  1.5673E-05  1.0975E+20  1.0408E+17
I-131                  5.3661E+05  4.3283E-03  1.9898E+22  4.3590E+19
I-132                  7.5735E+05  7.3371E-05  3.3474E+20  6.1694E+19
I-133                  1.0832E+06  9.5622E-04  4.3297E+21  8.8674E+19
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I-134                  8.1731E+05  3.0638E-05  1.3769E+20  8.1632E+19
I-135                  9.7626E+05  2.7799E-04  1.2401E+21  8.1401E+19
Xe-133                 6.3576E+06  3.3965E-02  1.5379E+23  2.2963E+20
Xe-135                 2.6679E+06  1.0447E-03  4.6604E+21  9.6265E+19
Cs-134                 1.5773E+05  1.2191E-01  5.4789E+23  1.2867E+19
Cs-136                 3.8513E+04  5.2548E-04  2.3269E+21  3.1435E+18
Cs-137                 1.0015E+05  1.1514E+00  5.0612E+24  8.1699E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1589E+24  0.0000E+00
Elemental I (atoms)    1.2486E+21  7.6878E+21
Organic I (atoms)      2.3446E+20  0.0000E+00
Aerosols (kg)          1.2792E+00  7.8496E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7899E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5263E-04
Total I (Ci)                                   4.1707E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      3.8373E+20
Elemental I (atoms)      9.3967E+17
Organic I (atoms)        7.7890E+16
Aerosols (kg)            9.5830E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0927E+23
Elemental I (atoms)    0.0000E+00  1.0110E+21
Organic I (atoms)      0.0000E+00  8.3077E+19
Aerosols (kg)          0.0000E+00  1.0310E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1138E+23
Elemental I (atoms)    0.0000E+00  3.8078E+20
Organic I (atoms)      0.0000E+00  2.2587E+19
Aerosols (kg)          0.0000E+00  3.8909E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  2.1207E+01  5.4053E-05  3.8296E+20  4.8309E+14
Kr-85m                 3.1629E+02  3.8433E-08  2.7229E+17  7.3468E+15
Kr-87                  5.0310E+02  1.7761E-08  1.2294E+17  1.2287E+16
Kr-88                  8.2347E+02  6.5671E-08  4.4941E+17  1.9346E+16
Rb-86                  1.1653E+00  1.4321E-08  1.0028E+17  3.7503E+13
I-131                  4.8768E+02  3.9337E-06  1.8084E+19  1.5683E+16
I-132                  6.3823E+02  6.1831E-08  2.8209E+17  2.1161E+16
I-133                  9.8456E+02  8.6913E-07  3.9354E+18  3.1807E+16
I-134                  7.4288E+02  2.7847E-08  1.2515E+17  2.7057E+16
I-135                  8.8735E+02  2.5267E-07  1.1271E+18  2.8985E+16
Xe-133                 2.4389E+03  1.3030E-05  5.8998E+19  5.5579E+16
Xe-135                 1.0241E+03  4.0101E-07  1.7888E+18  2.3353E+16
Cs-134                 1.4412E+02  1.1139E-04  5.0062E+20  4.6374E+15
Cs-136                 3.5190E+01  4.8014E-07  2.1261E+18  1.1327E+15
Cs-137                 9.1508E+01  1.0520E-03  4.6245E+21  2.9444E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    4.4459E+20  0.0000E+00
Elemental I (atoms)    1.1397E+18  0.0000E+00
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Organic I (atoms)      8.9910E+16  0.0000E+00
Aerosols (kg)          1.1688E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0701E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.3504E-08
Total I (Ci)                                   3.7407E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      3.8373E+20
Elemental I (atoms)      9.3967E+17
Organic I (atoms)        7.7890E+16
Aerosols (kg)            9.5830E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.6654E+18
Elemental I (atoms)    9.1958E+15  2.2555E+16
Organic I (atoms)      6.6553E+14  1.0913E+15
Aerosols (kg)          1.0260E-05  2.2199E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      6.9585E+19
Elemental I (atoms)      2.3780E+17
Organic I (atoms)        1.4111E+16
Aerosols (kg)            2.4299E-04

Exclusion Area Boundary Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.6060E-05  1.0007E-03  1.3963E-04
Accumulated dose (rem)  7.3733E-03  1.2403E+00  6.2414E-02

Low Population Zone Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1829E-04  1.2323E-03  1.7195E-04
Accumulated dose (rem)  9.0634E-04  1.3145E-01  6.7377E-03

Control Room Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4416E-04  7.0541E-01  3.1462E-02
Accumulated dose (rem)  5.3208E-04  2.5470E+00  1.1360E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
Co-58                  4.4404E+01  1.3965E-06  1.4499E+19  7.1815E+14
Co-60                  5.3160E+01  4.7028E-05  4.7202E+20  8.5972E+14
Kr-85                  1.8268E+05  4.6562E-01  3.2988E+24  4.7614E+18
Kr-85m                 2.6551E+06  3.2264E-04  2.2858E+21  7.1217E+19
Kr-87                  3.9574E+06  1.3971E-04  9.6707E+20  1.1442E+20
Kr-88                  6.8106E+06  5.4314E-04  3.7169E+21  1.8577E+20
Rb-86                  1.6516E+03  2.0299E-05  1.4214E+20  1.3845E+17
Sr-89                  6.3071E+04  2.1710E-03  1.4690E+22  1.0201E+18
Sr-90                  8.7078E+03  6.3837E-02  4.2715E+23  1.4083E+17
Sr-91                  7.4864E+04  2.0652E-05  1.3667E+20  1.2167E+18
Sr-92                  7.1467E+04  5.6858E-06  3.7218E+19  1.1760E+18
Y-90                   9.4503E+01  1.7370E-07  1.1623E+18  1.4928E+15
Y-91                   8.0966E+02  3.3015E-05  2.1848E+20  1.3088E+16
Y-92                   1.6049E+03  1.6679E-07  1.0918E+18  2.0770E+16
Y-93                   9.2752E+02  2.7801E-07  1.8002E+18  1.5070E+16
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Zr-95	1.0708E+03	4.9844E-05	3.1596E+20	1.7318E+16
Zr-97	1.0345E+03	5.4116E-07	3.3598E+18	1.6777E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	1.7446E+16
Mo-99	1.4729E+04	3.0710E-05	1.8681E+20	2.3837E+17
Tc-99m	1.3003E+04	2.4729E-06	1.5043E+19	2.1018E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.0239E+17
Ru-105	8.0549E+03	1.1983E-06	6.8726E+18	1.3165E+17
Ru-106	5.4900E+03	1.6410E-03	9.3229E+21	8.8788E+16
Rh-105	8.4280E+03	9.9852E-06	5.7269E+19	1.3630E+17
Sb-127	1.7192E+04	6.4378E-05	3.0527E+20	2.7818E+17
Sb-129	4.6039E+04	8.1871E-06	3.8220E+19	7.5271E+17
Te-127	1.7142E+04	6.4955E-06	3.0801E+19	2.7720E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	3.7388E+16
Te-129	4.7779E+04	2.2814E-06	1.0651E+19	7.7552E+17
Te-129m	7.4966E+03	2.4885E-04	1.1617E+21	1.2123E+17
Te-131m	2.2570E+04	2.8304E-05	1.3011E+20	3.6558E+17
Te-132	2.2213E+05	7.3168E-04	3.3381E+21	3.5945E+18
I-131	8.5232E+05	6.8749E-03	3.1604E+22	6.0589E+19
I-132	1.2091E+06	1.1713E-04	5.3438E+20	8.5832E+19
I-133	1.7119E+06	1.5112E-03	6.8425E+21	1.2290E+20
I-134	1.1385E+06	4.2676E-05	1.9179E+20	1.0581E+20
I-135	1.5246E+06	4.3412E-04	1.9365E+21	1.1205E+20
Xe-133	2.1010E+07	1.1225E-01	5.0824E+23	5.4774E+20
Xe-135	8.9315E+06	3.4974E-03	1.5602E+22	2.3116E+20
Cs-134	2.0433E+05	1.5793E-01	7.0974E+23	1.7120E+19
Cs-136	4.9873E+04	6.8047E-04	3.0132E+21	4.1816E+18
Cs-137	1.2974E+05	1.4915E+00	6.5564E+24	1.0870E+19
Ba-139	8.2649E+04	5.0528E-06	2.1891E+19	1.3832E+18
Ba-140	1.1154E+05	1.5236E-03	6.5540E+21	1.8042E+18
La-140	1.3056E+03	2.3489E-06	1.0104E+19	2.0392E+16
La-141	9.3844E+02	1.6594E-07	7.0872E+17	1.5359E+16
La-142	7.5357E+02	5.2642E-08	2.2325E+17	1.2566E+16
Ce-141	2.6387E+03	9.2607E-05	3.9553E+20	4.2674E+16
Ce-143	2.4314E+03	3.6613E-06	1.5419E+19	3.9378E+16
Ce-144	2.1960E+03	6.8851E-04	2.8794E+21	3.5515E+16
Pr-143	9.5558E+02	1.4191E-05	5.9761E+19	1.5453E+16
Nd-147	4.2083E+02	5.2019E-06	2.1311E+19	6.8070E+15
Np-239	3.1141E+04	1.3423E-04	3.3823E+20	5.0404E+17
Pu-238	1.2230E+01	7.1437E-04	1.8076E+21	1.9779E+14
Pu-239	7.2456E-01	1.1657E-02	2.9372E+22	1.1718E+13
Pu-240	7.3030E-01	3.2050E-03	8.0419E+21	1.1811E+13
Pu-241	4.3533E+02	4.2260E-03	1.0560E+22	7.0404E+15
Am-241	3.0818E-01	8.9792E-05	2.2437E+20	4.9839E+12
Cm-242	6.0555E+01	1.8271E-05	4.5467E+19	9.7933E+14
Cm-244	7.7829E+00	9.6201E-05	2.3743E+20	1.2587E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.6667	Atmosphere	Sump
Noble gases (atoms)	3.8296E+24	0.0000E+00
Elemental I (atoms)	1.9794E+21	1.2088E+22
Organic I (atoms)	3.5762E+20	0.0000E+00
Aerosols (kg)	1.7507E+00	1.1869E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	4.4226E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	5.5750E-04
Total I (Ci)		6.4363E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 0.6667 Leakage Transport

Noble gases (atoms)	9.1137E+20
Elemental I (atoms)	1.3064E+18
Organic I (atoms)	1.3984E+17
Aerosols (kg)	1.2933E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Pathway

Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6912E+23
Elemental I (atoms)	0.0000E+00	1.4001E+21
Organic I (atoms)	0.0000E+00	1.4881E+20
Aerosols (kg)	0.0000E+00	1.3864E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6566E+23
Elemental I (atoms)	0.0000E+00	6.1268E+20
Organic I (atoms)	0.0000E+00	4.8817E+19
Aerosols (kg)	0.0000E+00	6.2198E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	6.9316E-03	2.1799E-10	2.2634E+15	6.3984E+10
Co-60	8.2983E-03	7.3411E-09	7.3682E+16	7.6599E+10
Kr-85	5.0324E+01	1.2827E-04	9.0876E+20	1.2409E+15
Kr-85m	7.3144E+02	8.8879E-08	6.2970E+17	1.8484E+16
Kr-87	1.0902E+03	3.8487E-08	2.6641E+17	2.9360E+16
Kr-88	1.8762E+03	1.4962E-07	1.0239E+18	4.8097E+16
Rb-86	1.6023E+00	1.9692E-08	1.3790E+17	6.8360E+13
Sr-89	9.8455E+00	3.3889E-07	2.2931E+18	9.0883E+13
Sr-90	1.3593E+00	9.9650E-06	6.6679E+19	1.2547E+13
Sr-91	1.1686E+01	3.2238E-09	2.1335E+16	1.0825E+14
Sr-92	1.1156E+01	8.8756E-10	5.8098E+15	1.0423E+14
Y-90	1.5512E-02	2.8512E-11	1.9078E+14	1.3852E+11
Y-91	1.2651E-01	5.1588E-09	3.4140E+16	1.1671E+12
Y-92	3.6411E-01	3.7840E-11	2.4769E+14	2.6777E+12
Y-93	1.4479E-01	4.3397E-11	2.8102E+14	1.3408E+12
Zr-95	1.6715E-01	7.7806E-09	4.9322E+16	1.5430E+12
Zr-97	1.6149E-01	8.4476E-11	5.2446E+14	1.4936E+12
Nb-95	1.6840E-01	4.3065E-09	2.7299E+16	1.5544E+12
Mo-99	2.2992E+00	4.7939E-09	2.9161E+16	2.1234E+13
Tc-99m	2.0298E+00	3.8603E-10	2.3482E+15	1.8727E+13
Ru-103	1.9535E+00	6.0528E-08	3.5389E+17	1.8033E+13
Ru-105	1.2574E+00	1.8705E-10	1.0728E+15	1.1693E+13
Ru-106	8.5700E-01	2.5616E-07	1.4553E+18	7.9107E+12
Rh-105	1.3156E+00	1.5587E-09	8.9397E+15	1.2143E+13
Sb-127	2.6837E+00	1.0050E-08	4.7653E+16	2.4782E+13
Sb-129	7.1868E+00	1.2780E-09	5.9662E+15	6.6845E+13
Te-127	2.6759E+00	1.0140E-09	4.8080E+15	2.4696E+13
Te-127m	3.6089E-01	3.8260E-08	1.8142E+17	3.3312E+12
Te-129	7.4583E+00	3.5614E-10	1.6626E+15	6.8972E+13
Te-129m	1.1702E+00	3.8845E-08	1.8134E+17	1.0802E+13
Te-131m	3.5231E+00	4.4183E-09	2.0311E+16	3.2557E+13
Te-132	3.4675E+01	1.1422E-07	5.2108E+17	3.2021E+14
I-131	6.9567E+02	5.6114E-06	2.5796E+19	2.8829E+16
I-132	8.9154E+02	8.6371E-08	3.9405E+17	3.8175E+16
I-133	1.3975E+03	1.2336E-06	5.5858E+18	5.8278E+16
I-134	9.2936E+02	3.4838E-08	1.5657E+17	4.5751E+16
I-135	1.2445E+03	3.5438E-07	1.5809E+18	5.2692E+16
Xe-133	5.7853E+03	3.0908E-05	1.3995E+20	1.4271E+17
Xe-135	2.4328E+03	9.5266E-07	4.2497E+18	5.9960E+16
Cs-134	1.9823E+02	1.5321E-04	6.8854E+20	8.4543E+15
Cs-136	4.8383E+01	6.6015E-07	2.9232E+18	2.0645E+15
Cs-137	1.2586E+02	1.4470E-03	6.3605E+21	5.3679E+15
Ba-139	1.2902E+01	7.8875E-10	3.4172E+15	1.2197E+14
Ba-140	1.7412E+01	2.3784E-07	1.0231E+18	1.6074E+14
La-140	2.1928E-01	3.9451E-10	1.6970E+15	1.9291E+12
La-141	1.4649E-01	2.5903E-11	1.1063E+14	1.3636E+12
La-142	1.1763E-01	8.2174E-12	3.4850E+13	1.1093E+12
Ce-141	4.1189E-01	1.4456E-08	6.1740E+16	3.8021E+12
Ce-143	3.7955E-01	5.7154E-10	2.4069E+15	3.5070E+12

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Ce-144                 3.4280E-01  1.0748E-07  4.4947E+17  3.1643E+12
Pr-143                 1.4919E-01  2.2156E-09  9.3303E+15  1.3770E+12
Nd-147                 6.5691E-02  8.1202E-10  3.3266E+15  6.0645E+11
Np-239                 4.8611E+00  2.0954E-08  5.2798E+16  4.4898E+13
Pu-238                 1.9091E-03  1.1151E-07  2.8217E+17  1.7622E+10
Pu-239                 1.1310E-04  1.8197E-06  4.5851E+18  1.0440E+09
Pu-240                 1.1400E-04  5.0030E-07  1.2554E+18  1.0523E+09
Pu-241                 6.7956E-02  6.5968E-07  1.6484E+18  6.2728E+11
Am-241                 4.8108E-05  1.4017E-08  3.5025E+16  4.4406E+08
Cm-242                 9.4527E-03  2.8521E-09  7.0974E+15  8.7256E+10
Cm-244                 1.2149E-03  1.5017E-08  3.7063E+16  1.1215E+10

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    1.0549E+21  0.0000E+00
Elemental I (atoms)    1.6198E+18  0.0000E+00
Organic I (atoms)      1.6537E+17  0.0000E+00
Aerosols (kg)          1.6222E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5233E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.9160E-08
Total I (Ci)                                   5.1586E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      9.1137E+20
Elemental I (atoms)      1.3064E+18
Organic I (atoms)        1.3984E+17
Aerosols (kg)            1.2933E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2305E+19
Elemental I (atoms)    3.3253E+16  2.5228E+16
Organic I (atoms)      2.8656E+15  1.3357E+15
Aerosols (kg)          3.6840E-05  2.2741E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      1.6601E+20
Elemental I (atoms)      3.8273E+17
Organic I (atoms)        3.0505E+16
Aerosols (kg)            3.8854E-04

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.2568E-03  2.4104E-02  1.0519E-02
Accumulated dose (rem)  1.6630E-02  1.2644E+00  7.2933E-02

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1399E-02  2.9683E-02  1.2953E-02
Accumulated dose (rem)  1.2306E-02  1.6113E-01  1.9691E-02

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1258E-04  1.5238E+00  6.8143E-02
Accumulated dose (rem)  9.4465E-04  4.0708E+00  1.8174E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0848E+01	1.5991E-06	1.6603E+19	9.5333E+15
Co-60	6.0906E+01	5.3880E-05	5.4079E+20	1.1416E+16
Kr-85	9.3990E+05	2.3956E+00	1.6973E+25	1.0762E+20
Kr-85m	1.1114E+07	1.3506E-03	9.5685E+21	1.3922E+21
Kr-87	9.8440E+06	3.4753E-04	2.4056E+21	1.5755E+21
Kr-88	2.5307E+07	2.0183E-03	1.3812E+22	3.3450E+21
Rb-86	1.7228E+03	2.1173E-05	1.4826E+20	4.4176E+17
Sr-89	7.2207E+04	2.4854E-03	1.6818E+22	1.3539E+19
Sr-90	9.9768E+03	7.3140E-02	4.8940E+23	1.8700E+18
Sr-91	7.7823E+04	2.1468E-05	1.4207E+20	1.5374E+19
Sr-92	5.8221E+04	4.6320E-06	3.0320E+19	1.3174E+19
Y-90	1.1333E+02	2.0829E-07	1.3938E+18	2.0630E+16
Y-91	9.2796E+02	3.7839E-05	2.5041E+20	1.7388E+17
Y-92	2.0742E+03	2.1556E-07	1.4110E+18	3.5666E+17
Y-93	9.6977E+02	2.9067E-07	1.8822E+18	1.9097E+17
Zr-95	1.2261E+03	5.7073E-05	3.6179E+20	2.2988E+17
Zr-97	1.1222E+03	5.8703E-07	3.6445E+18	2.1662E+17
Nb-95	1.2360E+03	3.1607E-05	2.0036E+20	2.3166E+17
Mo-99	1.6641E+04	3.4696E-05	2.1106E+20	3.1425E+18
Tc-99m	1.4878E+04	2.8294E-06	1.7211E+19	2.7894E+18
Ru-103	1.4324E+04	4.4382E-04	2.5949E+21	2.6861E+18
Ru-105	7.4946E+03	1.1149E-06	6.3945E+18	1.5737E+18
Ru-106	6.2894E+03	1.8799E-03	1.0680E+22	1.1789E+18
Rh-105	9.6220E+03	1.1400E-05	6.5382E+19	1.8074E+18
Sb-127	1.9502E+04	7.3026E-05	3.4628E+20	3.6749E+18
Sb-129	4.2589E+04	7.5736E-06	3.5356E+19	8.9716E+18
Te-127	1.9549E+04	7.4076E-06	3.5126E+19	3.6721E+18
Te-127m	2.6491E+03	2.8085E-04	1.3317E+21	4.9650E+17
Te-129	4.7613E+04	2.2735E-06	1.0614E+19	9.6234E+18
Te-129m	8.5912E+03	2.8518E-04	1.3313E+21	1.6101E+18
Te-131m	2.5074E+04	3.1445E-05	1.4455E+20	4.7781E+18
Te-132	2.5151E+05	8.2845E-04	3.7796E+21	4.7441E+19
I-131	9.1924E+05	7.4148E-03	3.4086E+22	2.2074E+20
I-132	1.2915E+06	1.2512E-04	5.7082E+20	3.1198E+20
I-133	1.7736E+06	1.5657E-03	7.0893E+21	4.3813E+20
I-134	4.2971E+05	1.6108E-05	7.2391E+19	2.3762E+20
I-135	1.4358E+06	4.0886E-04	1.8238E+21	3.7979E+20
Xe-133	1.0774E+08	5.7560E-01	2.6063E+24	1.2355E+22
Xe-135	4.5785E+07	1.7929E-02	7.9977E+22	5.2624E+21
Cs-134	2.1356E+05	1.6506E-01	7.4180E+23	5.4681E+19
Cs-136	5.1975E+04	7.0916E-04	3.1402E+21	1.3336E+19
Cs-137	1.3560E+05	1.5590E+00	6.8528E+24	3.4719E+19
Ba-139	4.8431E+04	2.9609E-06	1.2828E+19	1.3288E+19
Ba-140	1.2741E+05	1.7404E-03	7.4864E+21	2.3920E+19
La-140	1.5963E+03	2.8720E-06	1.2354E+19	2.8702E+17
La-141	8.4988E+02	1.5028E-07	6.4185E+17	1.8116E+17
La-142	4.7409E+02	3.3118E-08	1.4045E+17	1.2467E+17
Ce-141	3.0224E+03	1.0607E-04	4.5305E+20	5.6659E+17
Ce-143	2.7088E+03	4.0790E-06	1.7178E+19	5.1541E+17
Ce-144	2.5157E+03	7.8873E-04	3.2985E+21	4.7155E+17
Pr-143	1.0950E+03	1.6261E-05	6.8481E+19	2.0522E+17
Nd-147	4.8046E+02	5.9391E-06	2.4331E+19	9.0224E+16
Np-239	3.5100E+04	1.5130E-04	3.8123E+20	6.6369E+18
Pu-238	1.4012E+01	8.1849E-04	2.0710E+21	2.6263E+15
Pu-239	8.3030E-01	1.3358E-02	3.3659E+22	1.5561E+14
Pu-240	8.3673E-01	3.6720E-03	9.2139E+21	1.5683E+14
Pu-241	4.9877E+02	4.8418E-03	1.2099E+22	9.3486E+16
Am-241	3.5314E-01	1.0289E-04	2.5711E+20	6.6185E+13
Cm-242	6.9363E+01	2.0928E-05	5.2080E+19	1.3003E+16
Cm-244	8.9170E+00	1.1022E-04	2.7203E+20	1.6713E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump
Noble gases (atoms)	1.9685E+25	0.0000E+00
Elemental I (atoms)	2.0639E+21	5.3237E+22
Organic I (atoms)	1.1508E+21	0.0000E+00

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Aerosols (kg)          1.8391E+00  4.8258E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6993E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.8238E-04
Total I (Ci)                                   5.8499E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.1037E+22
Elemental I (atoms)      4.7355E+18
Organic I (atoms)        1.4178E+18
Aerosols (kg)            4.3257E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2323E+25
Elemental I (atoms)    0.0000E+00  5.0385E+21
Organic I (atoms)      0.0000E+00  1.5048E+21
Aerosols (kg)          0.0000E+00  4.6039E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2907E+25
Elemental I (atoms)    0.0000E+00  3.6849E+21
Organic I (atoms)      0.0000E+00  9.2345E+20
Aerosols (kg)          0.0000E+00  3.4199E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg          Atoms       Decay
Co-58                  1.1902E-01  3.7431E-09  3.8865E+16  1.0914E+13
Co-60                  1.4257E-01  1.2612E-07  1.2659E+18  1.3071E+13
Kr-85                  1.3050E+03  3.3261E-03  2.3565E+22  9.6417E+16
Kr-85m                 1.5431E+04  1.8751E-06  1.3285E+19  1.2180E+18
Kr-87                  1.3668E+04  4.8251E-07  3.3400E+18  1.2904E+18
Kr-88                  3.5137E+04  2.8022E-06  1.9176E+19  2.8847E+18
Rb-86                  5.5415E+00  6.8105E-08  4.7691E+17  7.0528E+14
Sr-89                  1.6902E+02  5.8178E-06  3.9366E+19  1.5500E+16
Sr-90                  2.3353E+01  1.7120E-04  1.1456E+21  2.1411E+15
Sr-91                  1.8217E+02  5.0253E-08  3.3256E+17  1.7282E+16
Sr-92                  1.3628E+02  1.0842E-08  7.0972E+16  1.4123E+16
Y-90                   4.4419E-01  8.1644E-10  5.4630E+15  3.5021E+13
Y-91                   2.2001E+00  8.9713E-08  5.9370E+17  2.0088E+14
Y-92                   2.4514E+01  2.5476E-09  1.6676E+16  1.7566E+15
Y-93                   2.2700E+00  6.8039E-10  4.4058E+15  2.1491E+14
Zr-95                  2.8700E+00  1.3359E-07  8.4687E+17  2.6318E+14
Zr-97                  2.6268E+00  1.3741E-09  8.5310E+15  2.4549E+14
Nb-95                  2.8931E+00  7.3986E-08  4.6900E+17  2.6524E+14
Mo-99                  3.8953E+01  8.1216E-08  4.9404E+17  3.5887E+15
Tc-99m                 3.4825E+01  6.6229E-09  4.0287E+16  3.1930E+15
Ru-103                 3.3529E+01  1.0389E-06  6.0740E+18  3.0750E+15
Ru-105                 1.7543E+01  2.6098E-09  1.4968E+16  1.7317E+15
Ru-106                 1.4722E+01  4.4005E-06  2.5000E+19  1.3498E+15
Rh-105                 2.2523E+01  2.6684E-08  1.5304E+17  2.0681E+15
Sb-127                 4.5649E+01  1.7094E-07  8.1056E+17  4.1998E+15
Sb-129                 9.9692E+01  1.7728E-08  8.2760E+16  9.8613E+15
Te-127                 4.5761E+01  1.7340E-08  8.2221E+16  4.2008E+15
Te-127m                6.2009E+00  6.5740E-07  3.1173E+18  5.6848E+14
Te-129                 1.1145E+02  5.3218E-09  2.4844E+16  1.0733E+16
Te-129m                2.0110E+01  6.6754E-07  3.1163E+18  1.8436E+15
Te-131m                5.8693E+01  7.3605E-08  3.3836E+17  5.4392E+15
Te-132                 5.8873E+02  1.9392E-06  8.8471E+18  5.4198E+16
I-131                  2.7605E+03  2.2266E-05  1.0236E+20  3.3523E+17
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I-132                  3.0845E+03  2.9882E-07  1.3633E+18  3.9985E+17
I-133                  5.3279E+03  4.7033E-06  2.1296E+19  6.5920E+17
I-134                  1.2908E+03  4.8388E-08  2.1746E+17  2.7293E+17
I-135                  4.3132E+03  1.2282E-06  5.4788E+18  5.5837E+17
Xe-133                 1.4936E+05  7.9792E-04  3.6129E+21  1.1052E+19
Xe-135                 6.1255E+04  2.3987E-05  1.0700E+20  4.5802E+18
Cs-134                 6.8694E+02  5.3094E-04  2.3861E+21  8.7344E+16
Cs-136                 1.6718E+02  2.2811E-06  1.0101E+19  2.1287E+16
Cs-137                 4.3618E+02  5.0147E-03  2.2043E+22  5.5459E+16
Ba-139                 1.1337E+02  6.9307E-09  3.0027E+16  1.3320E+16
Ba-140                 2.9824E+02  4.0739E-06  1.7524E+19  2.7372E+16
La-140                 7.3599E+00  1.3241E-08  5.6958E+16  5.5971E+14
La-141                 1.9894E+00  3.5177E-10  1.5024E+15  1.9830E+14
La-142                 1.1097E+00  7.7522E-11  3.2877E+14  1.2683E+14
Ce-141                 7.0727E+00  2.4822E-07  1.0602E+18  6.4856E+14
Ce-143                 6.3407E+00  9.5481E-09  4.0210E+16  5.8704E+14
Ce-144                 5.8886E+00  1.8462E-06  7.7211E+18  5.3990E+14
Pr-143                 2.5690E+00  3.8151E-08  1.6067E+17  2.3535E+14
Nd-147                 1.1247E+00  1.3902E-08  5.6952E+16  1.0324E+14
Np-239                 8.2162E+01  3.5416E-07  8.9238E+17  7.5758E+15
Pu-238                 3.2799E-02  1.9159E-06  4.8478E+18  3.0071E+12
Pu-239                 1.9435E-03  3.1269E-05  7.8788E+19  1.7818E+11
Pu-240                 1.9586E-03  8.5953E-06  2.1568E+19  1.7956E+11
Pu-241                 1.1675E+00  1.1334E-05  2.8320E+19  1.0704E+14
Am-241                 8.2671E-04  2.4087E-07  6.0189E+17  7.5787E+10
Cm-242                 1.6236E-01  4.8989E-08  1.2191E+17  1.4887E+13
Cm-244                 2.0873E-02  2.5800E-07  6.3676E+17  1.9136E+12

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    2.7321E+22  0.0000E+00
Elemental I (atoms)    6.2600E+18  0.0000E+00
Organic I (atoms)      1.8370E+18  0.0000E+00
Aerosols (kg)          5.8216E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.9515E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.3401E-08
Total I (Ci)                                   1.6777E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.1037E+22
Elemental I (atoms)      4.7355E+18
Organic I (atoms)        1.4178E+18
Aerosols (kg)            4.3257E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7628E+21
Elemental I (atoms)    5.8731E+17  8.6791E+16
Organic I (atoms)      1.2259E+17  1.4638E+16
Aerosols (kg)          6.0646E-04  3.4366E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      8.0669E+21
Elemental I (atoms)      2.3029E+18
Organic I (atoms)        5.7715E+17
Aerosols (kg)            2.1373E-03

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4023E-03  6.0776E-03  3.7334E-03
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Accumulated dose (rem)	2.0032E-02	1.2705E+00	7.6666E-02

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8021E-03	3.2191E-03	1.9775E-03
Accumulated dose (rem)	1.4108E-02	1.6435E-01	2.1669E-02

Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.4394E-05	5.4562E-02	2.4999E-03
Accumulated dose (rem)	1.0090E-03	4.1253E+00	1.8424E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1045E+00	1.6053E-07	1.6668E+18	9.7732E+15
Co-60	6.1147E+00	5.4094E-06	5.4294E+19	1.1703E+16
Kr-85	8.8872E+05	2.2652E+00	1.6049E+25	1.3158E+20
Kr-85m	1.0189E+07	1.2381E-03	8.7718E+21	1.6713E+21
Kr-87	8.3467E+06	2.9467E-04	2.0397E+21	1.8133E+21
Kr-88	2.2789E+07	1.8175E-03	1.2437E+22	3.9748E+21
Rb-86	1.7690E+02	2.1741E-06	1.5224E+19	4.4999E+17
Sr-89	7.2486E+03	2.4950E-04	1.6882E+21	1.3880E+19
Sr-90	1.0016E+03	7.3430E-03	4.9134E+22	1.9170E+18
Sr-91	7.7000E+03	2.1241E-06	1.4057E+19	1.5739E+19
Sr-92	5.5537E+03	4.4185E-07	2.8922E+18	1.3443E+19
Y-90	1.5867E+01	2.9164E-08	1.9515E+17	2.1241E+16
Y-91	9.3840E+01	3.8265E-06	2.5323E+19	1.7827E+17
Y-92	6.6731E+02	6.9350E-08	4.5395E+17	3.7439E+17
Y-93	9.6034E+01	2.8784E-08	1.8639E+17	1.9552E+17
Zr-95	1.2308E+02	5.7294E-06	3.6319E+19	2.3567E+17
Zr-97	1.1175E+02	5.8455E-08	3.6291E+17	2.2190E+17
Nb-95	1.2409E+02	3.1733E-06	2.0116E+19	2.3749E+17
Mo-99	1.6672E+03	3.4761E-06	2.1145E+19	3.2210E+18
Tc-99m	1.4933E+03	2.8399E-07	1.7275E+18	2.8592E+18
Ru-103	1.4378E+03	4.4551E-05	2.6048E+20	2.7537E+18
Ru-105	7.2930E+02	1.0849E-07	6.2225E+17	1.6086E+18
Ru-106	6.3143E+02	1.8874E-04	1.0723E+21	1.2086E+18
Rh-105	9.6514E+02	1.1435E-06	6.5581E+18	1.8527E+18
Sb-127	1.9550E+03	7.3206E-06	3.4713E+19	3.7669E+18
Sb-129	4.1408E+03	7.3635E-07	3.4375E+18	9.1700E+18
Te-127	1.9614E+03	7.4320E-07	3.5241E+18	3.7640E+18
Te-127m	2.6597E+02	2.8197E-05	1.3370E+20	5.0900E+17
Te-129	4.6827E+03	2.2360E-07	1.0438E+18	9.8408E+18
Te-129m	8.6254E+02	2.8632E-05	1.3366E+20	1.6506E+18
Te-131m	2.5058E+03	3.1424E-06	1.4446E+19	4.8962E+18
Te-132	2.5206E+04	8.3027E-05	3.7879E+20	4.8627E+19
I-131	1.1450E+05	9.2354E-04	4.2456E+21	2.2562E+20
I-132	1.4607E+05	1.4151E-05	6.4562E+19	3.1851E+20
I-133	2.1962E+05	1.9387E-04	8.7782E+20	4.4753E+20
I-134	4.5729E+04	1.7142E-06	7.7038E+18	2.3976E+20
I-135	1.7526E+05	4.9907E-05	2.2263E+20	3.8736E+20
Xe-133	1.0175E+08	5.4360E-01	2.4614E+24	1.5100E+22
Xe-135	4.2513E+07	1.6647E-02	7.4261E+22	6.4181E+21
Cs-134	2.1935E+04	1.6954E-02	7.6193E+22	5.5701E+19
Cs-136	5.3362E+03	7.2809E-05	3.2240E+20	1.3584E+19
Cs-137	1.3928E+04	1.6013E-01	7.0388E+23	3.5367E+19
Ba-139	4.3971E+03	2.6882E-07	1.1647E+18	1.3507E+19
Ba-140	1.2786E+04	1.7465E-04	7.5127E+20	2.4521E+19
La-140	2.5117E+02	4.5189E-07	1.9438E+18	2.9609E+17
La-141	8.2368E+01	1.4565E-08	6.2206E+16	1.8512E+17
La-142	4.3504E+01	3.0390E-09	1.2888E+16	1.2683E+17
Ce-141	3.0338E+02	1.0647E-05	4.5475E+19	5.8085E+17
Ce-143	2.7082E+02	4.0781E-07	1.7174E+18	5.2817E+17
Ce-144	2.5256E+02	7.9185E-05	3.3115E+20	4.8342E+17

Pr-143	1.1008E+02	1.6347E-06	6.8843E+18	2.1039E+17
Nd-147	4.8212E+01	5.9595E-07	2.4414E+18	9.2490E+16
Np-239	3.5153E+03	1.5153E-05	3.8181E+19	6.8023E+18
Pu-238	1.4068E+00	8.2174E-05	2.0792E+20	2.6924E+15
Pu-239	8.3362E-02	1.3412E-03	3.3794E+21	1.5953E+14
Pu-240	8.4005E-02	3.6866E-04	9.2504E+20	1.6078E+14
Pu-241	5.0075E+01	4.8610E-04	1.2147E+21	9.5839E+16
Am-241	3.5457E-02	1.0331E-05	2.5815E+19	6.7851E+13
Cm-242	6.9636E+00	2.1011E-06	5.2285E+18	1.3330E+16
Cm-244	8.9524E-01	1.1066E-05	2.7311E+19	1.7134E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8608E+25	0.0000E+00	
Elemental I (atoms)	2.1018E+20	5.5265E+22	
Organic I (atoms)	1.0912E+21	0.0000E+00	
Aerosols (kg)	1.8865E-01	5.0068E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.8378E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.2051E-05
Total I (Ci)			7.0118E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Leakage Transport
Noble gases (atoms)	2.5809E+22
Elemental I (atoms)	4.9045E+18
Organic I (atoms)	1.6975E+18
Aerosols (kg)	4.4765E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7386E+25
Elemental I (atoms)	0.0000E+00	5.2179E+21
Organic I (atoms)	0.0000E+00	1.8016E+21
Aerosols (kg)	0.0000E+00	4.7640E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6903E+25
Elemental I (atoms)	0.0000E+00	4.1646E+21
Organic I (atoms)	0.0000E+00	1.1646E+21
Aerosols (kg)	0.0000E+00	3.8505E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	1.2764E-01	4.0140E-09	4.1677E+16	1.4276E+13
Co-60	1.5289E-01	1.3526E-07	1.3576E+18	1.7098E+13
Kr-85	1.6178E+03	4.1235E-03	2.9215E+22	1.3744E+17
Kr-85m	1.8548E+04	2.2538E-06	1.5968E+19	1.6955E+18
Kr-87	1.5194E+04	5.3641E-07	3.7130E+18	1.6970E+18
Kr-88	4.1485E+04	3.3084E-06	2.2641E+19	3.9622E+18
Rb-86	5.8069E+00	7.1366E-08	4.9974E+17	8.5888E+14
Sr-89	1.8125E+02	6.2386E-06	4.2213E+19	2.0274E+16
Sr-90	2.5045E+01	1.8361E-04	1.2286E+21	2.8008E+15
Sr-91	1.9253E+02	5.3113E-08	3.5149E+17	2.2390E+16
Sr-92	1.3887E+02	1.1048E-08	7.2319E+16	1.7875E+16
Y-90	5.1835E-01	9.5273E-10	6.3750E+15	4.7666E+13
Y-91	2.3656E+00	9.6460E-08	6.3835E+17	2.6304E+14
Y-92	2.9612E+01	3.0774E-09	2.0144E+16	2.4458E+15
Y-93	2.4013E+00	7.1974E-10	4.6606E+15	2.7860E+14
Zr-95	3.0777E+00	1.4326E-07	9.0815E+17	3.4425E+14
Zr-97	2.7941E+00	1.4616E-09	9.0743E+15	3.1939E+14

Nb-95	3.1027E+00	7.9346E-08	5.0298E+17	3.4696E+14
Mo-99	4.1687E+01	8.6918E-08	5.2872E+17	4.6879E+15
Tc-99m	3.7339E+01	7.1010E-09	4.3195E+16	4.1711E+15
Ru-103	3.5953E+01	1.1140E-06	6.5132E+18	4.0221E+15
Ru-105	1.8236E+01	2.7128E-09	1.5559E+16	2.2196E+15
Ru-106	1.5789E+01	4.7192E-06	2.6811E+19	1.7657E+15
Rh-105	2.4133E+01	2.8591E-08	1.6398E+17	2.7036E+15
Sb-127	4.8883E+01	1.8305E-07	8.6798E+17	5.4883E+15
Sb-129	1.0354E+02	1.8412E-08	8.5954E+16	1.2632E+16
Te-127	4.9043E+01	1.8583E-08	8.8119E+16	5.4885E+15
Te-127m	6.6503E+00	7.0504E-07	3.3432E+18	7.4365E+14
Te-129	1.1709E+02	5.5910E-09	2.6101E+16	1.3774E+16
Te-129m	2.1567E+01	7.1592E-07	3.3421E+18	2.4116E+15
Te-131m	6.2655E+01	7.8574E-08	3.6121E+17	7.0934E+15
Te-132	6.3027E+02	2.0760E-06	9.4713E+18	7.0815E+16
I-131	2.9079E+03	2.3455E-05	1.0783E+20	4.1206E+17
I-132	3.1402E+03	3.0422E-07	1.3879E+18	4.8438E+17
I-133	5.5790E+03	4.9249E-06	2.2300E+19	8.0706E+17
I-134	1.1617E+03	4.3546E-08	1.9570E+17	3.0616E+17
I-135	4.4523E+03	1.2678E-06	5.6554E+18	6.7722E+17
Xe-133	1.8501E+05	9.8842E-04	4.4755E+21	1.5746E+19
Xe-135	7.5339E+04	2.9502E-05	1.3160E+20	6.5013E+18
Cs-134	7.2005E+02	5.5653E-04	2.5011E+21	1.0639E+17
Cs-136	1.7517E+02	2.3900E-06	1.0583E+19	2.5920E+16
Cs-137	4.5721E+02	5.2564E-03	2.3106E+22	6.7551E+16
Ba-139	1.0995E+02	6.7217E-09	2.9122E+16	1.6366E+16
Ba-140	3.1971E+02	4.3671E-06	1.8785E+19	3.5795E+16
La-140	8.7390E+00	1.5722E-08	6.7631E+16	7.6951E+14
La-141	2.0596E+00	3.6418E-10	1.5554E+15	2.5352E+14
La-142	1.0878E+00	7.5989E-11	3.2227E+14	1.5680E+14
Ce-141	7.5843E+00	2.6618E-07	1.1369E+18	8.4834E+14
Ce-143	6.7716E+00	1.0197E-08	4.2942E+16	7.6578E+14
Ce-144	6.3151E+00	1.9800E-06	8.2803E+18	7.0624E+14
Pr-143	2.7565E+00	4.0935E-08	1.7239E+17	3.0791E+14
Nd-147	1.2055E+00	1.4901E-08	6.1047E+16	1.3500E+14
Np-239	8.7899E+01	3.7889E-07	9.5469E+17	9.8939E+15
Pu-238	3.5176E-02	2.0547E-06	5.1990E+18	3.9336E+12
Pu-239	2.0844E-03	3.3535E-05	8.4499E+19	2.3308E+11
Pu-240	2.1005E-03	9.2181E-06	2.3130E+19	2.3489E+11
Pu-241	1.2521E+00	1.2155E-05	3.0372E+19	1.4002E+14
Am-241	8.8665E-04	2.5834E-07	6.4553E+17	9.9141E+10
Cm-242	1.7412E-01	5.2536E-08	1.3074E+17	1.9473E+13
Cm-244	2.2385E-02	2.7669E-07	6.8290E+17	2.5033E+12

Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	3.3864E+22	0.0000E+00	
Elemental I (atoms)	6.5647E+18	0.0000E+00	
Organic I (atoms)	2.2129E+18	0.0000E+00	
Aerosols (kg)	6.1082E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		6.2550E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.6947E-08
Total I (Ci)			1.7241E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

Noble gases (atoms)	2.5809E+22
Elemental I (atoms)	4.9045E+18
Organic I (atoms)	1.6975E+18
Aerosols (kg)	4.4765E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4811E+21

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Elemental I (atoms)    7.2376E+17  1.0195E+17
Organic I (atoms)      1.6541E+17  1.9396E+16
Aerosols (kg)          7.4452E-04  3.7184E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.2000  Leakage Transport

Noble gases (atoms)      1.0565E+22
Elemental I (atoms)      2.6027E+18
Organic I (atoms)        7.2786E+17
Aerosols (kg)            2.4063E-03

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9040E-03  3.1262E-03  2.0744E-03
Accumulated dose (rem)  2.1936E-02  1.2737E+00  7.8741E-02

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0085E-03  1.6558E-03  1.0987E-03
Accumulated dose (rem)  1.5116E-02  1.6601E-01  2.2767E-02

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.0634E-05  2.1311E-02  9.8283E-04
Accumulated dose (rem)  1.0397E-03  4.1466E+00  1.8522E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  3.1706E+00  9.9709E-08  1.0353E+18  9.8154E+15
Co-60                  3.7981E+00  3.3600E-06  3.3724E+19  1.1754E+16
Kr-85                  8.7336E+05  2.2261E+00  1.5771E+25  1.4321E+20
Kr-85m                 9.8591E+06  1.1980E-03  8.4878E+21  1.8036E+21
Kr-87                  7.7673E+06  2.7421E-04  1.8981E+21  1.9197E+21
Kr-88                  2.1856E+07  1.7430E-03  1.1928E+22  4.2695E+21
Rb-86                  1.1086E+02  1.3624E-06  9.5403E+18  4.5147E+17
Sr-89                  4.5022E+03  1.5497E-04  1.0486E+21  1.3940E+19
Sr-90                  6.2217E+02  4.5611E-03  3.0520E+22  1.9253E+18
Sr-91                  4.7481E+03  1.3098E-06  8.6680E+18  1.5802E+19
Sr-92                  3.3626E+03  2.6752E-07  1.7511E+18  1.3488E+19
Y-90                   1.1101E+01  2.0405E-08  1.3653E+17  2.1380E+16
Y-91                   5.8475E+01  2.3844E-06  1.5779E+19  1.7905E+17
Y-92                   5.3312E+02  5.5404E-08  3.6267E+17  3.8066E+17
Y-93                   5.9244E+01  1.7757E-08  1.1499E+17  1.9631E+17
Zr-95                  7.6451E+01  3.5587E-06  2.2559E+19  2.3669E+17
Zr-97                  6.9127E+01  3.6161E-08  2.2450E+17  2.2282E+17
Nb-95                  7.7075E+01  1.9711E-06  1.2495E+19  2.3852E+17
Mo-99                  1.0345E+03  2.1569E-06  1.3120E+19  3.2348E+18
Tc-99m                 9.2743E+02  1.7638E-07  1.0729E+18  2.8715E+18
Ru-103                 8.9306E+02  2.7671E-05  1.6179E+20  2.7656E+18
Ru-105                 4.4599E+02  6.6347E-08  3.8053E+17  1.6146E+18
Ru-106                 3.9221E+02  1.1723E-04  6.6603E+20  1.2138E+18
Rh-105                 5.9920E+02  7.0991E-07  4.0716E+18  1.8607E+18
Sb-127                 1.2134E+03  4.5438E-06  2.1546E+19  3.7830E+18
Sb-129                 2.5311E+03  4.5011E-07  2.1012E+18  9.2040E+18
Te-127                 1.2179E+03  4.6148E-07  2.1883E+18  3.7802E+18
Te-127m                1.6521E+02  1.7514E-05  8.3051E+19  5.1120E+17
Te-129                 2.8782E+03  1.3743E-07  6.4158E+17  9.8784E+18
Te-129m                5.3577E+02  1.7785E-05  8.3024E+19  1.6577E+18
Te-131m                1.5529E+03  1.9474E-06  8.9523E+18  4.9169E+18
Te-132                 1.5643E+04  5.1526E-05  2.3508E+20  4.8835E+19
I-131                  7.9886E+04  6.4438E-04  2.9622E+21  2.2669E+20
I-132                  9.7567E+04  9.4522E-06  4.3123E+19  3.1982E+20
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I-133                  1.5278E+05  1.3487E-04  6.1067E+20  4.4957E+20
I-134                  2.9492E+04  1.1055E-06  4.9684E+18  2.4017E+20
I-135                  1.2106E+05  3.4471E-05  1.5377E+20  3.8898E+20
Xe-133                 9.9933E+07  5.3388E-01  2.4174E+24  1.6431E+22
Xe-135                 4.1422E+07  1.6220E-02  7.2356E+22  6.9719E+21
Cs-134                 1.3748E+04  1.0626E-02  4.7755E+22  5.5884E+19
Cs-136                 3.3438E+03  4.5623E-05  2.0202E+20  1.3629E+19
Cs-137                 8.7297E+03  1.0036E-01  4.4116E+23  3.5483E+19
Ba-139                 2.5973E+03  1.5879E-07  6.8794E+17  1.3543E+19
Ba-140                 7.9403E+03  1.0846E-04  4.6655E+20  2.4627E+19
La-140                 1.8119E+02  3.2598E-07  1.4022E+18  2.9832E+17
La-141                 5.0269E+01  8.8887E-09  3.7964E+16  1.8579E+17
La-142                 2.5834E+01  1.8047E-09  7.6536E+15  1.2718E+17
Ce-141                 1.8842E+02  6.6129E-06  2.8244E+19  5.8336E+17
Ce-143                 1.6786E+02  2.5278E-07  1.0645E+18  5.3041E+17
Ce-144                 1.5688E+02  4.9185E-05  2.0569E+20  4.8551E+17
Pr-143                 6.8417E+01  1.0160E-06  4.2787E+18  2.1130E+17
Nd-147                 2.9939E+01  3.7008E-07  1.5161E+18  9.2889E+16
Np-239                 2.1809E+03  9.4007E-06  2.3687E+19  6.8314E+18
Pu-238                 8.7383E-01  5.1042E-05  1.2915E+20  2.7041E+15
Pu-239                 5.1781E-02  8.3308E-04  2.0991E+21  1.6022E+14
Pu-240                 5.2180E-02  2.2899E-04  5.7459E+20  1.6147E+14
Pu-241                 3.1104E+01  3.0194E-04  7.5450E+20  9.6253E+16
Am-241                 2.2025E-02  6.4173E-06  1.6036E+19  6.8144E+13
Cm-242                 4.3254E+00  1.3051E-06  3.2476E+18  1.3387E+16
Cm-244                 5.5608E-01  6.8734E-06  1.6964E+19  1.7208E+15

Sprayed Drywell Transport Group Inventory:
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8283E+25  0.0000E+00
Elemental I (atoms)    1.3125E+20  5.5507E+22
Organic I (atoms)      1.0727E+21  0.0000E+00
Aerosols (kg)          1.1817E-01  5.0285E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0680E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0115E-05
Total I (Ci)                                   4.8078E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.3000  Leakage Transport

Noble gases (atoms)      2.8113E+22
Elemental I (atoms)      4.9246E+18
Organic I (atoms)        1.8328E+18
Aerosols (kg)            4.4946E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9832E+25
Elemental I (atoms)    0.0000E+00  5.2392E+21
Organic I (atoms)      0.0000E+00  1.9452E+21
Aerosols (kg)          0.0000E+00  4.7831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9029E+25
Elemental I (atoms)    0.0000E+00  4.3524E+21
Organic I (atoms)      0.0000E+00  1.2915E+21
Aerosols (kg)          0.0000E+00  4.0194E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  1.2944E-01  4.0706E-09  4.2265E+16  1.6000E+13
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Co-60	1.5506E-01	1.3717E-07	1.3768E+18	1.9163E+13
Kr-85	1.7715E+03	4.5152E-03	3.1989E+22	1.6104E+17
Kr-85m	1.9998E+04	2.4300E-06	1.7216E+19	1.9640E+18
Kr-87	1.5755E+04	5.5620E-07	3.8500E+18	1.9127E+18
Kr-88	4.4330E+04	3.5353E-06	2.4193E+19	4.5600E+18
Rb-86	5.8538E+00	7.1943E-08	5.0378E+17	9.3686E+14
Sr-89	1.8380E+02	6.3265E-06	4.2808E+19	2.2723E+16
Sr-90	2.5400E+01	1.8621E-04	1.2459E+21	3.1391E+15
Sr-91	1.9384E+02	5.3473E-08	3.5387E+17	2.4982E+16
Sr-92	1.3728E+02	1.0921E-08	7.1490E+16	1.9727E+16
Y-90	5.5029E-01	1.0114E-09	6.7678E+15	5.4633E+13
Y-91	2.4026E+00	9.7969E-08	6.4833E+17	2.9499E+14
Y-92	3.1927E+01	3.3180E-09	2.1719E+16	2.8386E+15
Y-93	2.4186E+00	7.2493E-10	4.6942E+15	3.1092E+14
Zr-95	3.1211E+00	1.4528E-07	9.2095E+17	3.8582E+14
Zr-97	2.8221E+00	1.4762E-09	9.1651E+15	3.5705E+14
Nb-95	3.1466E+00	8.0469E-08	5.1010E+17	3.8887E+14
Mo-99	4.2233E+01	8.8055E-08	5.3564E+17	5.2507E+15
Tc-99m	3.7862E+01	7.2005E-09	4.3800E+16	4.6726E+15
Ru-103	3.6459E+01	1.1297E-06	6.6048E+18	4.5077E+15
Ru-105	1.8207E+01	2.7086E-09	1.5535E+16	2.4640E+15
Ru-106	1.6012E+01	4.7860E-06	2.7190E+19	1.9789E+15
Rh-105	2.4462E+01	2.8982E-08	1.6622E+17	3.0292E+15
Sb-127	4.9538E+01	1.8550E-07	8.7960E+17	6.1484E+15
Sb-129	1.0333E+02	1.8375E-08	8.5783E+16	1.4020E+16
Te-127	4.9720E+01	1.8840E-08	8.9335E+16	6.1486E+15
Te-127m	6.7445E+00	7.1502E-07	3.3905E+18	8.3349E+14
Te-129	1.1750E+02	5.6106E-09	2.6192E+16	1.5309E+16
Te-129m	2.1872E+01	7.2605E-07	3.3894E+18	2.7030E+15
Te-131m	6.3395E+01	7.9502E-08	3.6547E+17	7.9388E+15
Te-132	6.3862E+02	2.1035E-06	9.5968E+18	7.9325E+16
I-131	2.9370E+03	2.3690E-05	1.0891E+20	4.5119E+17
I-132	3.1076E+03	3.0106E-07	1.3735E+18	5.2614E+17
I-133	5.6181E+03	4.9594E-06	2.2456E+19	8.8202E+17
I-134	1.0845E+03	4.0653E-08	1.8270E+17	3.2119E+17
I-135	4.4516E+03	1.2676E-06	5.6545E+18	7.3682E+17
Xe-133	2.0250E+05	1.0818E-03	4.8984E+21	1.8444E+19
Xe-135	8.2085E+04	3.2143E-05	1.4339E+20	7.5985E+18
Cs-134	7.2598E+02	5.6111E-04	2.5217E+21	1.1606E+17
Cs-136	1.7657E+02	2.4092E-06	1.0668E+19	2.8272E+16
Cs-137	4.6098E+02	5.2997E-03	2.3296E+22	7.3691E+16
Ba-139	1.0603E+02	6.4825E-09	2.8085E+16	1.7815E+16
Ba-140	3.2416E+02	4.4279E-06	1.9047E+19	4.0114E+16
La-140	9.3582E+00	1.6837E-08	7.2423E+16	8.8683E+14
La-141	2.0522E+00	3.6288E-10	1.5499E+15	2.8110E+14
La-142	1.0547E+00	7.3676E-11	3.1246E+14	1.7117E+14
Ce-141	7.6912E+00	2.6993E-07	1.1529E+18	9.5079E+14
Ce-143	6.8530E+00	1.0320E-08	4.3459E+16	8.5715E+14
Ce-144	6.4044E+00	2.0080E-06	8.3974E+18	7.9155E+14
Pr-143	2.7963E+00	4.1526E-08	1.7488E+17	3.4515E+14
Nd-147	1.2222E+00	1.5108E-08	6.1894E+16	1.5128E+14
Np-239	8.9033E+01	3.8378E-07	9.6702E+17	1.1081E+16
Pu-238	3.5674E-02	2.0838E-06	5.2726E+18	4.4088E+12
Pu-239	2.1139E-03	3.4010E-05	8.5696E+19	2.6124E+11
Pu-240	2.1302E-03	9.3485E-06	2.3458E+19	2.6327E+11
Pu-241	1.2698E+00	1.2327E-05	3.0802E+19	1.5693E+14
Am-241	8.9922E-04	2.6200E-07	6.5468E+17	1.1112E+11
Cm-242	1.7658E-01	5.3279E-08	1.3258E+17	2.1825E+13
Cm-244	2.2702E-02	2.8061E-07	6.9256E+17	2.8056E+12

Reactor Building Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	3.7076E+22	0.0000E+00
Elemental I (atoms)	6.6144E+18	0.0000E+00
Organic I (atoms)	2.3967E+18	0.0000E+00
Aerosols (kg)	6.1601E-03	0.0000E+00

Dose Effective (Ci/cc) I-131 (Thyroid) 6.3105E-08

Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 7.7528E-08
Total I (Ci) 1.7199E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	2.8113E+22
Elemental I (atoms)	4.9246E+18
Organic I (atoms)	1.8328E+18
Aerosols (kg)	4.4946E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8973E+21
Elemental I (atoms)	7.9344E+17	1.0969E+17
Organic I (atoms)	1.8977E+17	2.2103E+16
Aerosols (kg)	8.1508E-04	3.8624E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	1.1893E+22
Elemental I (atoms)	2.7201E+18
Organic I (atoms)	8.0720E+17
Aerosols (kg)	2.5119E-03

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5599E-02	5.6250E-02	4.8636E-02
Accumulated dose (rem)	6.7535E-02	1.3299E+00	1.2738E-01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4153E-02	2.9794E-02	2.5761E-02
Accumulated dose (rem)	3.9269E-02	1.9580E-01	4.8528E-02

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9930E-04	1.1525E-01	5.7856E-03
Accumulated dose (rem)	1.6390E-03	4.2619E+00	1.9101E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8534E+00	1.2118E-07	1.2583E+18	1.1223E+16
Co-60	4.6192E+00	4.0864E-06	4.1015E+19	1.3440E+16
Kr-85	8.3308E+05	2.1234E+00	1.5044E+25	3.3331E+20
Kr-85m	7.2294E+06	8.7846E-04	6.2238E+21	3.6918E+21
Kr-87	2.9331E+06	1.0355E-04	7.1678E+20	3.0245E+21
Kr-88	1.3768E+07	1.0980E-03	7.5137E+21	8.1672E+21
Rb-86	1.3497E+02	1.6587E-06	1.1615E+19	5.0081E+17
Sr-89	5.4703E+03	1.8829E-04	1.2741E+21	1.5939E+19
Sr-90	7.5669E+02	5.5473E-03	3.7118E+22	2.2016E+18
Sr-91	5.1011E+03	1.4072E-06	9.3124E+18	1.7798E+19
Sr-92	2.6476E+03	2.1064E-07	1.3788E+18	1.4726E+19
Y-90	2.7354E+01	5.0278E-08	3.3642E+17	2.8486E+16
Y-91	7.3017E+01	2.9774E-06	1.9704E+19	2.0532E+17
Y-92	1.4233E+03	1.4792E-07	9.6824E+17	7.6069E+17
Y-93	6.4119E+01	1.9218E-08	1.2445E+17	2.2130E+17
Zr-95	9.2909E+01	4.3248E-06	2.7415E+19	2.7063E+17
Zr-97	7.8411E+01	4.1017E-08	2.5465E+17	2.5258E+17
Nb-95	9.3738E+01	2.3972E-06	1.5196E+19	2.7274E+17

Mo-99	1.2359E+03	2.5769E-06	1.5675E+19	3.6905E+18
Tc-99m	1.1236E+03	2.1368E-07	1.2998E+18	3.2804E+18
Ru-103	1.0848E+03	3.3612E-05	1.9652E+20	3.1620E+18
Ru-105	4.1598E+02	6.1884E-08	3.5493E+17	1.7909E+18
Ru-106	4.7695E+02	1.4256E-04	8.0993E+20	1.3880E+18
Rh-105	7.2049E+02	8.5361E-07	4.8958E+18	2.1254E+18
Sb-127	1.4571E+03	5.4562E-06	2.5872E+19	4.3188E+18
Sb-129	2.3435E+03	4.1674E-07	1.9455E+18	1.0202E+19
Te-127	1.4721E+03	5.5781E-07	2.6451E+18	4.3177E+18
Te-127m	2.0096E+02	2.1304E-05	1.0102E+20	5.8457E+17
Te-129	2.8785E+03	1.3745E-07	6.4165E+17	1.1026E+19
Te-129m	6.5152E+02	2.1627E-05	1.0096E+20	1.8957E+18
Te-131m	1.8159E+03	2.2772E-06	1.0469E+19	5.5945E+18
Te-132	1.8741E+04	6.1730E-05	2.8163E+20	5.5736E+19
I-131	1.0005E+05	8.0700E-04	3.7098E+21	2.5831E+20
I-132	8.1861E+04	7.9306E-06	3.6181E+19	3.5173E+20
I-133	1.8189E+05	1.6057E-04	7.2703E+20	5.0865E+20
I-134	9.6897E+03	3.6322E-07	1.6324E+18	2.4688E+20
I-135	1.2762E+05	3.6340E-05	1.6211E+20	4.3327E+20
Xe-133	9.4428E+07	5.0447E-01	2.2842E+24	3.8081E+22
Xe-135	3.4647E+07	1.3567E-02	6.0522E+22	1.5416E+22
Cs-134	1.6781E+04	1.2970E-02	5.8290E+22	6.2011E+19
Cs-136	4.0665E+03	5.5484E-05	2.4569E+20	1.5117E+19
Cs-137	1.0656E+04	1.2251E-01	5.3853E+23	3.9374E+19
Ba-139	1.3435E+03	8.2138E-08	3.5586E+17	1.4350E+19
Ba-140	9.6199E+03	1.3140E-04	5.6524E+20	2.8147E+19
La-140	4.9792E+02	8.9582E-07	3.8534E+18	4.2250E+17
La-141	4.5299E+01	8.0100E-09	3.4211E+16	2.0538E+17
La-142	1.4631E+01	1.0220E-09	4.3344E+15	1.3550E+17
Ce-141	2.2889E+02	8.0332E-06	3.4310E+19	6.6699E+17
Ce-143	1.9700E+02	2.9665E-07	1.2493E+18	6.0378E+17
Ce-144	1.9076E+02	5.9810E-05	2.5013E+20	5.5517E+17
Pr-143	8.3644E+01	1.2421E-06	5.2310E+18	2.4175E+17
Nd-147	3.6250E+01	4.4809E-07	1.8357E+18	1.0616E+17
Np-239	2.5977E+03	1.1197E-05	2.8214E+19	7.7909E+18
Pu-238	1.0628E+00	6.2079E-05	1.5708E+20	3.0921E+15
Pu-239	6.2992E-02	1.0134E-03	2.5536E+21	1.8322E+14
Pu-240	6.3462E-02	2.7850E-04	6.9883E+20	1.8464E+14
Pu-241	3.7829E+01	3.6722E-04	9.1763E+20	1.1007E+17
Am-241	2.6799E-02	7.8083E-06	1.9511E+19	7.7927E+13
Cm-242	5.2590E+00	1.5868E-06	3.9486E+18	1.5308E+16
Cm-244	6.7631E-01	8.3595E-06	2.0632E+19	1.9678E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7403E+25	0.0000E+00	
Elemental I (atoms)	5.7615E+20	5.5507E+22	
Organic I (atoms)	1.0030E+21	0.0000E+00	
Aerosols (kg)	1.4420E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.0004E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0369E-05
Total I (Ci)			5.0111E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	6.5471E+22
Elemental I (atoms)	5.9973E+18
Organic I (atoms)	4.0098E+18
Aerosols (kg)	4.9885E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9471E+25
Elemental I (atoms)	0.0000E+00	6.3774E+21

Organic I (atoms)	0.0000E+00	4.2550E+21
Aerosols (kg)	0.0000E+00	5.3072E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7863E+25
Elemental I (atoms)	0.0000E+00	5.9494E+21
Organic I (atoms)	0.0000E+00	3.5598E+21
Aerosols (kg)	0.0000E+00	5.1623E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	1.3469E-01	4.2357E-09	4.3980E+16	4.6631E+13
Co-60	1.6146E-01	1.4283E-07	1.4336E+18	5.5870E+13
Kr-85	4.1227E+03	1.0508E-02	7.4448E+22	8.5296E+17
Kr-85m	3.5776E+04	4.3473E-06	3.0800E+19	8.7174E+18
Kr-87	1.4515E+04	5.1244E-07	3.5471E+18	5.6912E+18
Kr-88	6.8132E+04	5.4335E-06	3.7183E+19	1.8360E+19
Rb-86	5.7889E+00	7.1146E-08	4.9820E+17	2.2780E+15
Sr-89	1.9120E+02	6.5814E-06	4.4533E+19	6.6212E+16
Sr-90	2.6448E+01	1.9389E-04	1.2974E+21	9.1519E+15
Sr-91	1.7830E+02	4.9186E-08	3.2550E+17	6.8124E+16
Sr-92	9.2540E+01	7.3624E-09	4.8193E+16	4.6053E+16
Y-90	1.0263E+00	1.8863E-09	1.2622E+16	2.3292E+14
Y-91	2.5635E+00	1.0453E-07	6.9176E+17	8.7041E+14
Y-92	5.5122E+01	5.7285E-09	3.7498E+16	1.3025E+16
Y-93	2.2411E+00	6.7174E-10	4.3498E+15	8.5119E+14
Zr-95	3.2475E+00	1.5116E-07	9.5825E+17	1.1244E+15
Zr-97	2.7407E+00	1.4337E-09	8.9008E+15	1.0023E+15
Nb-95	3.2764E+00	8.3789E-08	5.3115E+17	1.1337E+15
Mo-99	4.3198E+01	9.0069E-08	5.4789E+17	1.5159E+16
Tc-99m	3.9272E+01	7.4687E-09	4.5432E+16	1.3570E+16
Ru-103	3.7917E+01	1.1748E-06	6.8690E+18	1.3133E+16
Ru-105	1.4540E+01	2.1630E-09	1.2406E+16	6.2472E+15
Ru-106	1.6671E+01	4.9829E-06	2.8309E+19	5.7692E+15
Rh-105	2.5183E+01	2.9836E-08	1.7112E+17	8.7861E+15
Sb-127	5.0930E+01	1.9071E-07	9.0432E+17	1.7801E+16
Sb-129	8.1912E+01	1.4566E-08	6.8000E+16	3.5415E+16
Te-127	5.1455E+01	1.9497E-08	9.2452E+16	1.7842E+16
Te-127m	7.0240E+00	7.4465E-07	3.5310E+18	2.4302E+15
Te-129	1.0061E+02	4.8042E-09	2.2428E+16	4.0014E+16
Te-129m	2.2773E+01	7.5593E-07	3.5289E+18	7.8804E+15
Te-131m	6.3470E+01	7.9596E-08	3.6591E+17	2.2654E+16
Te-132	6.5505E+02	2.1576E-06	9.8437E+18	2.2937E+17
I-131	2.9928E+03	2.4140E-05	1.1097E+20	1.1349E+18
I-132	2.2318E+03	2.1621E-07	9.8640E+17	1.1340E+18
I-133	5.4418E+03	4.8038E-06	2.1751E+19	2.1571E+18
I-134	2.8990E+02	1.0867E-08	4.8838E+16	4.6015E+17
I-135	3.8182E+03	1.0872E-06	4.8499E+18	1.6886E+18
Xe-133	4.6719E+05	2.4959E-03	1.1301E+22	9.7160E+19
Xe-135	1.7053E+05	6.6778E-05	2.9789E+20	3.7767E+19
Cs-134	7.1978E+02	5.5632E-04	2.5002E+21	2.8260E+17
Cs-136	1.7442E+02	2.3798E-06	1.0538E+19	6.8704E+16
Cs-137	4.5707E+02	5.2547E-03	2.3098E+22	1.7944E+17
Ba-139	4.6961E+01	2.8710E-09	1.2438E+16	3.4651E+16
Ba-140	3.3625E+02	4.5930E-06	1.9757E+19	1.1670E+17
La-140	1.8806E+01	3.3834E-08	1.4554E+17	4.0638E+15
La-141	1.5833E+00	2.7997E-10	1.1958E+15	7.0054E+14
La-142	5.1138E-01	3.5723E-11	1.5150E+14	3.4538E+14
Ce-141	7.9997E+00	2.8076E-07	1.1991E+18	2.7705E+15
Ce-143	6.8857E+00	1.0369E-08	4.3666E+16	2.4507E+15
Ce-144	6.6677E+00	2.0905E-06	8.7426E+18	2.3075E+15
Pr-143	2.9260E+00	4.3452E-08	1.8299E+17	1.0086E+15
Nd-147	1.2670E+00	1.5662E-08	6.4162E+16	4.3997E+14

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Np-239                 9.0797E+01  3.9138E-07  9.8617E+17  3.1938E+16
Pu-238                 3.7147E-02  2.1698E-06  5.4904E+18  1.2854E+13
Pu-239                 2.2018E-03  3.5423E-05  8.9255E+19  7.6172E+11
Pu-240                 2.2182E-03  9.7345E-06  2.4426E+19  7.6755E+11
Pu-241                 1.3222E+00  1.2836E-05  3.2074E+19  4.5753E+14
Am-241                 9.3675E-04  2.7293E-07  6.8201E+17  3.2403E+11
Cm-242                 1.8382E-01  5.5462E-08  1.3802E+17  6.3621E+13
Cm-244                 2.3639E-02  2.9219E-07  7.2115E+17  8.1798E+12

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    8.6119E+22  0.0000E+00
Elemental I (atoms)    7.1391E+18  0.0000E+00
Organic I (atoms)      5.1324E+18  0.0000E+00
Aerosols (kg)          6.1206E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.3138E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.6129E-08
Total I (Ci)                                   1.4774E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      6.5471E+22
Elemental I (atoms)      5.9973E+18
Organic I (atoms)        4.0098E+18
Aerosols (kg)            4.9885E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5353E+22
Elemental I (atoms)    2.0311E+18  2.4721E+17
Organic I (atoms)      8.7649E+17  9.8406E+16
Aerosols (kg)          2.0370E-03  6.3561E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      3.6164E+22
Elemental I (atoms)      3.7182E+18
Organic I (atoms)        2.2248E+18
Aerosols (kg)            3.2263E-03

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2715E-01  1.3371E-01  1.3403E-01
Accumulated dose (rem)  1.9468E-01  1.4636E+00  2.6141E-01

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.7346E-02  7.0823E-02  7.0994E-02
Accumulated dose (rem)  1.0661E-01  2.6662E-01  1.1952E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8686E-03  1.7902E-02  2.7493E-03
Accumulated dose (rem)  3.5076E-03  4.2798E+00  1.9376E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
Co-58                  4.7205E+00  1.4845E-07  1.5414E+18  1.3716E+16
Co-60                  5.6676E+00  5.0139E-06  5.0324E+19  1.6431E+16
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Kr-85	8.2880E+05	2.1125E+00	1.4967E+25	7.7598E+20
Kr-85m	3.8733E+06	4.7066E-04	3.3346E+21	6.5567E+21
Kr-87	3.2977E+05	1.1642E-05	8.0586E+19	3.6591E+21
Kr-88	5.1598E+06	4.1149E-04	2.8160E+21	1.2840E+22
Rb-86	1.6459E+02	2.0228E-06	1.4164E+19	5.8793E+17
Sr-89	6.6969E+03	2.3051E-04	1.5598E+21	1.9477E+19
Sr-90	9.2846E+02	6.8066E-03	4.5545E+22	2.6916E+18
Sr-91	4.6748E+03	1.2896E-06	8.5343E+18	2.0658E+19
Sr-92	1.1678E+03	9.2910E-08	6.0817E+17	1.5793E+19
Y-90	7.1527E+01	1.3147E-07	8.7969E+17	5.6116E+16
Y-91	9.3915E+01	3.8295E-06	2.5343E+19	2.5378E+17
Y-92	1.8419E+03	1.9142E-07	1.2530E+18	1.7704E+18
Y-93	5.9789E+01	1.7921E-08	1.1604E+17	2.5755E+17
Zr-95	1.1380E+02	5.2971E-06	3.3579E+19	3.3073E+17
Zr-97	8.1655E+01	4.2714E-08	2.6518E+17	2.9937E+17
Nb-95	1.1501E+02	2.9412E-06	1.8645E+19	3.3343E+17
Mo-99	1.4541E+03	3.0318E-06	1.8442E+19	4.4740E+18
Tc-99m	1.3542E+03	2.5753E-07	1.5666E+18	3.9981E+18
Ru-103	1.3272E+03	4.1122E-05	2.4043E+20	3.8633E+18
Ru-105	2.7336E+02	4.0666E-08	2.3324E+17	1.9906E+18
Ru-106	5.8505E+02	1.7487E-04	9.9349E+20	1.6967E+18
Rh-105	8.4594E+02	1.0022E-06	5.7482E+18	2.5822E+18
Sb-127	1.7350E+03	6.4970E-06	3.0808E+19	5.2481E+18
Sb-129	1.5135E+03	2.6915E-07	1.2565E+18	1.1318E+19
Te-127	1.7768E+03	6.7325E-07	3.1924E+18	5.2599E+18
Te-127m	2.4665E+02	2.6149E-05	1.2399E+20	7.1470E+17
Te-129	2.1651E+03	1.0339E-07	4.8264E+17	1.2460E+19
Te-129m	7.9830E+02	2.6499E-05	1.2371E+20	2.3172E+18
Te-131m	2.0314E+03	2.5476E-06	1.1711E+19	6.7171E+18
Te-132	2.2194E+04	7.3106E-05	3.3353E+20	6.7655E+19
I-131	1.1327E+05	9.1367E-04	4.2002E+21	3.1872E+20
I-132	4.4209E+04	4.2829E-06	1.9539E+19	3.8552E+20
I-133	1.8280E+05	1.6137E-04	7.3068E+20	6.1216E+20
I-134	4.7082E+02	1.7649E-08	7.9317E+16	2.4864E+20
I-135	9.6342E+04	2.7433E-05	1.2238E+20	4.9657E+20
Xe-133	9.1900E+07	4.9097E-01	2.2231E+24	8.7709E+22
Xe-135	2.5434E+07	9.9596E-03	4.4428E+22	3.1293E+22
Cs-134	2.0588E+04	1.5913E-02	7.1513E+22	7.2876E+19
Cs-136	4.9459E+03	6.7483E-05	2.9882E+20	1.7738E+19
Cs-137	1.3076E+04	1.5032E-01	6.6079E+23	4.6273E+19
Ba-139	2.2055E+02	1.3483E-08	5.8416E+16	1.4721E+19
Ba-140	1.1697E+04	1.5978E-04	6.8730E+20	3.4347E+19
La-140	1.3527E+03	2.4337E-06	1.0469E+19	9.3971E+17
La-141	2.7451E+01	4.8539E-09	2.0731E+16	2.2634E+17
La-142	2.9721E+00	2.0762E-10	8.8051E+14	1.3985E+17
Ce-141	2.8001E+02	9.8270E-06	4.1971E+19	8.1497E+17
Ce-143	2.2224E+02	3.3466E-07	1.4094E+18	7.2607E+17
Ce-144	2.3398E+02	7.3358E-05	3.0679E+20	6.7866E+17
Pr-143	1.0373E+02	1.5404E-06	6.4872E+18	2.9619E+17
Nd-147	4.4014E+01	5.4406E-07	2.2289E+18	1.2951E+17
Np-239	3.0349E+03	1.3082E-05	3.2962E+19	9.4319E+18
Pu-238	1.3041E+00	7.6174E-05	1.9274E+20	3.7803E+15
Pu-239	7.7334E-02	1.2442E-03	3.1350E+21	2.2401E+14
Pu-240	7.7869E-02	3.4173E-04	8.5748E+20	2.2574E+14
Pu-241	4.6416E+01	4.5058E-04	1.1259E+21	1.3456E+17
Am-241	3.2917E-02	9.5909E-06	2.3966E+19	9.5289E+13
Cm-242	6.4484E+00	1.9456E-06	4.8416E+18	1.8712E+16
Cm-244	8.2983E-01	1.0257E-05	2.5316E+19	2.4057E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7240E+25	0.0000E+00	
Elemental I (atoms)	5.4767E+20	5.5507E+22	
Organic I (atoms)	9.5066E+20	0.0000E+00	
Aerosols (kg)	1.7689E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.4553E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.3846E-05

Total I (Ci) 4.3710E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	1.5207E+23
Elemental I (atoms)	8.8086E+18
Organic I (atoms)	8.8907E+18
Aerosols (kg)	5.8627E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6136E+26
Elemental I (atoms)	0.0000E+00	9.3603E+21
Organic I (atoms)	0.0000E+00	9.4339E+21
Aerosols (kg)	0.0000E+00	6.2348E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4975E+26
Elemental I (atoms)	0.0000E+00	8.9338E+21
Organic I (atoms)	0.0000E+00	8.7385E+21
Aerosols (kg)	0.0000E+00	6.1235E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	1.1550E-01	3.6324E-09	3.7715E+16	1.1277E+14
Co-60	1.3867E-01	1.2268E-07	1.2313E+18	1.3521E+14
Kr-85	8.0919E+03	2.0625E-02	1.4612E+23	4.2172E+18
Kr-85m	3.7816E+04	4.5952E-06	3.2556E+19	2.9788E+19
Kr-87	3.2196E+03	1.1366E-07	7.8679E+17	9.9956E+18
Kr-88	5.0376E+04	4.0175E-06	2.7493E+19	5.2073E+19
Rb-86	4.6930E+00	5.7677E-08	4.0388E+17	5.0410E+15
Sr-89	1.6386E+02	5.6402E-06	3.8164E+19	1.6007E+17
Sr-90	2.2718E+01	1.6654E-04	1.1144E+21	2.2149E+16
Sr-91	1.1438E+02	3.1554E-08	2.0882E+17	1.4440E+17
Sr-92	2.8574E+01	2.2733E-09	1.4881E+16	7.4888E+16
Y-90	1.7921E+00	3.2940E-09	2.2041E+16	9.8574E+14
Y-91	2.3050E+00	9.3988E-08	6.2199E+17	2.1596E+15
Y-92	4.6603E+01	4.8432E-09	3.1702E+16	4.1398E+16
Y-93	1.4629E+00	4.3848E-10	2.8393E+15	1.8176E+15
Zr-95	2.7844E+00	1.2961E-07	8.2160E+17	2.7189E+15
Zr-97	1.9979E+00	1.0451E-09	6.4885E+15	2.2470E+15
Nb-95	2.8141E+00	7.1966E-08	4.5620E+17	2.7437E+15
Mo-99	3.5579E+01	7.4182E-08	4.5124E+17	3.5959E+16
Tc-99m	3.3134E+01	6.3013E-09	3.8330E+16	3.2613E+16
Ru-103	3.2473E+01	1.0062E-06	5.8828E+18	3.1740E+16
Ru-105	6.6885E+00	9.9501E-10	5.7068E+15	1.1603E+16
Ru-106	1.4315E+01	4.2787E-06	2.4309E+19	1.3960E+16
Rh-105	2.0698E+01	2.4522E-08	1.4065E+17	2.0914E+16
Sb-127	4.2453E+01	1.5897E-07	7.5380E+17	4.2466E+16
Sb-129	3.7033E+01	6.5854E-09	3.0743E+16	6.5363E+16
Te-127	4.3474E+01	1.6473E-08	7.8112E+16	4.2843E+16
Te-127m	6.0351E+00	6.3981E-07	3.0339E+18	5.8824E+15
Te-129	5.2976E+01	2.5296E-09	1.1809E+16	7.8400E+16
Te-129m	1.9533E+01	6.4838E-07	3.0268E+18	1.9065E+16
Te-131m	4.9705E+01	6.2333E-08	2.8655E+17	5.2482E+16
Te-132	5.4305E+02	1.7887E-06	8.1607E+18	5.4577E+17
I-131	2.5990E+03	2.0964E-05	9.6371E+19	2.6145E+18
I-132	9.9740E+02	9.6627E-08	4.4084E+17	1.9231E+18
I-133	4.1948E+03	3.7030E-06	1.6767E+19	4.6970E+18
I-134	1.0804E+01	4.0499E-10	1.8201E+15	5.0514E+17

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I-135                  2.2107E+03  6.2951E-07  2.8081E+18  3.2479E+18
Xe-133                 8.9723E+05  4.7934E-03  2.1704E+22  4.7387E+20
Xe-135                 2.4824E+05  9.7209E-05  4.3363E+20  1.5630E+20
Cs-134                 5.8705E+02  4.5373E-04  2.0391E+21  6.2714E+17
Cs-136                 1.4103E+02  1.9242E-06  8.5205E+18  1.5185E+17
Cs-137                 3.7284E+02  4.2864E-03  1.8842E+22  3.9825E+17
Ba-139                 5.3963E+00  3.2991E-10  1.4293E+15  4.4829E+16
Ba-140                 2.8621E+02  3.9095E-06  1.6817E+19  2.8121E+17
La-140                 3.3917E+01  6.1020E-08  2.6248E+17  1.8178E+16
La-141                 6.7166E-01  1.1877E-10  5.0725E+14  1.2637E+15
La-142                 7.2722E-02  5.0801E-12  2.1544E+13  4.6453E+14
Ce-141                 6.8506E+00  2.4043E-07  1.0269E+18  6.6960E+15
Ce-143                 5.4378E+00  8.1885E-09  3.4484E+16  5.6997E+15
Ce-144                 5.7249E+00  1.7949E-06  7.5064E+18  5.5835E+15
Pr-143                 2.5395E+00  3.7713E-08  1.5882E+17  2.4536E+15
Nd-147                 1.0769E+00  1.3312E-08  5.4535E+16  1.0594E+15
Np-239                 7.4256E+01  3.2008E-07  8.0652E+17  7.5508E+16
Pu-238                 3.1908E-02  1.8638E-06  4.7160E+18  3.1109E+13
Pu-239                 1.8922E-03  3.0442E-05  7.6706E+19  1.8440E+12
Pu-240                 1.9053E-03  8.3615E-06  2.0981E+19  1.8576E+12
Pu-241                 1.1357E+00  1.1025E-05  2.7549E+19  1.1073E+15
Am-241                 8.0544E-04  2.3467E-07  5.8641E+17  7.8460E+11
Cm-242                 1.5778E-01  4.7605E-08  1.1846E+17  1.5392E+14
Cm-244                 2.0304E-02  2.5097E-07  6.1942E+17  1.9796E+13

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    1.6832E+23  0.0000E+00
Elemental I (atoms)    7.9002E+18  0.0000E+00
Organic I (atoms)      9.3851E+18  0.0000E+00
Aerosols (kg)          5.0037E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.2849E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.1844E-08
Total I (Ci)                                   1.0013E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      1.5207E+23
Elemental I (atoms)      8.8086E+18
Organic I (atoms)        8.8907E+18
Aerosols (kg)            5.8627E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6630E+22
Elemental I (atoms)    5.2290E+18  6.0253E+17
Organic I (atoms)      4.0339E+18  4.4923E+17
Aerosols (kg)          4.5755E-03  1.1537E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      9.3593E+22
Elemental I (atoms)      5.5834E+18
Organic I (atoms)        5.4616E+18
Aerosols (kg)            3.8270E-03

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7980E-01  2.5744E-01  1.9223E-01
Accumulated dose (rem)  3.7448E-01  1.7210E+00  4.5364E-01

Low Population Zone Doses:
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Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.2424E-02	4.5966E-02	6.4644E-02
Accumulated dose (rem)	1.6904E-01	3.1259E-01	1.8417E-01

Control Room Doses:

Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0029E-03	1.4313E-02	2.7001E-03
Accumulated dose (rem)	5.5105E-03	4.2941E+00	1.9646E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	4.6583E+00	1.4650E-07	1.5211E+18	1.8712E+16
Co-60	5.6105E+00	4.9634E-06	4.9817E+19	2.2439E+16
Kr-85	8.2054E+05	2.0914E+00	1.4817E+25	1.6545E+21
Kr-85m	1.1122E+06	1.3515E-04	9.5750E+20	8.9142E+21
Kr-87	4.1696E+03	1.4720E-07	1.0189E+18	3.7384E+21
Kr-88	7.2496E+05	5.7816E-05	3.9565E+20	1.5247E+22
Rb-86	1.6094E+02	1.9780E-06	1.3851E+19	7.6132E+17
Sr-89	6.6000E+03	2.2718E-04	1.5372E+21	2.6559E+19
Sr-90	9.1921E+02	6.7387E-03	4.5090E+22	3.6757E+18
Sr-91	2.5818E+03	7.1222E-07	4.7133E+18	2.4414E+19
Sr-92	1.4941E+02	1.1887E-08	7.7810E+16	1.6321E+19
Y-90	1.4142E+02	2.5993E-07	1.7393E+18	1.6775E+17
Y-91	9.8417E+01	4.0131E-06	2.6558E+19	3.5639E+17
Y-92	6.9370E+02	7.2093E-08	4.7191E+17	3.0706E+18
Y-93	3.4185E+01	1.0246E-08	6.6349E+16	3.0635E+17
Zr-95	1.1226E+02	5.2255E-06	3.3125E+19	4.5113E+17
Zr-97	5.8229E+01	3.0460E-08	1.8911E+17	3.7318E+17
Nb-95	1.1385E+02	2.9116E-06	1.8457E+19	4.5531E+17
Mo-99	1.3236E+03	2.7597E-06	1.6787E+19	5.9525E+18
Tc-99m	1.2836E+03	2.4412E-07	1.4850E+18	5.3655E+18
Ru-103	1.3062E+03	4.0474E-05	2.3664E+20	5.2660E+18
Ru-105	7.7623E+01	1.1548E-08	6.6230E+16	2.1563E+18
Ru-106	5.7886E+02	1.7302E-04	9.8299E+20	2.3167E+18
Rh-105	7.3811E+02	8.7448E-07	5.0155E+18	3.4265E+18
Sb-127	1.6177E+03	6.0577E-06	2.8725E+19	7.0333E+18
Sb-129	4.1513E+02	7.3822E-08	3.4462E+17	1.2222E+19
Te-127	1.7028E+03	6.4521E-07	3.0595E+18	7.0817E+18
Te-127m	2.4432E+02	2.5901E-05	1.2282E+20	9.7620E+17
Te-129	1.2064E+03	5.7604E-08	2.6891E+17	1.3916E+19
Te-129m	7.8621E+02	2.6098E-05	1.2183E+20	3.1613E+18
Te-131m	1.6718E+03	2.0966E-06	9.6380E+18	8.6834E+18
Te-132	2.0469E+04	6.7424E-05	3.0760E+20	9.0368E+19
I-131	1.0901E+05	8.7928E-04	4.0421E+21	4.3710E+20
I-132	2.5085E+04	2.4302E-06	1.1087E+19	4.1655E+20
I-133	1.3863E+05	1.2238E-04	5.5412E+20	7.8229E+20
I-134	8.3458E-01	3.1285E-11	1.4060E+14	2.4872E+20
I-135	4.1223E+04	1.1738E-05	5.2363E+19	5.6574E+20
Xe-133	8.7071E+07	4.6517E-01	2.1062E+24	1.8301E+23
Xe-135	1.3706E+07	5.3671E-03	2.3942E+22	5.1502E+22
Cs-134	2.0377E+04	1.5749E-02	7.0780E+22	9.4696E+19
Cs-136	4.8111E+03	6.5644E-05	2.9067E+20	2.2935E+19
Cs-137	1.2945E+04	1.4883E-01	6.5420E+23	6.0133E+19
Ba-139	3.9079E+00	2.3891E-10	1.0351E+15	1.4778E+19
Ba-140	1.1373E+04	1.5535E-04	6.6823E+20	4.6635E+19
La-140	2.6489E+03	4.7657E-06	2.0500E+19	3.0428E+18
La-141	6.6287E+00	1.1721E-09	5.0061E+15	2.4195E+17
La-142	8.0653E-02	5.6342E-12	2.3894E+13	1.4070E+17
Ce-141	2.7536E+02	9.6639E-06	4.1275E+19	1.1108E+18
Ce-143	1.8600E+02	2.8008E-07	1.1795E+18	9.4295E+17
Ce-144	2.3146E+02	7.2569E-05	3.0349E+20	9.2657E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	4.0700E+17
Nd-147	4.2669E+01	5.2743E-07	2.1607E+18	1.7567E+17
Np-239	2.7239E+03	1.1741E-05	2.9585E+19	1.2496E+19

Pu-238	1.2911E+00	7.5418E-05	1.9083E+20	5.1626E+15
Pu-239	7.6639E-02	1.2330E-03	3.1068E+21	3.0602E+14
Pu-240	7.7095E-02	3.3833E-04	8.4895E+20	3.0828E+14
Pu-241	4.5952E+01	4.4608E-04	1.1147E+21	1.8376E+17
Am-241	3.2657E-02	9.5150E-06	2.3776E+19	1.3021E+14
Cm-242	6.3751E+00	1.9235E-06	4.7867E+18	2.5542E+16
Cm-244	8.2155E-01	1.0155E-05	2.5063E+19	3.2853E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6949E+25	0.0000E+00	
Elemental I (atoms)	5.0306E+20	5.5507E+22	
Organic I (atoms)	8.7323E+20	0.0000E+00	
Aerosols (kg)	1.7506E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.9599E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5909E-05
Total I (Ci)			3.1395E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.2303E+23
Elemental I (atoms)	1.4060E+19
Organic I (atoms)	1.8007E+19
Aerosols (kg)	7.6224E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4275E+26
Elemental I (atoms)	0.0000E+00	1.4933E+22
Organic I (atoms)	0.0000E+00	1.9107E+22
Aerosols (kg)	0.0000E+00	8.1020E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3114E+26
Elemental I (atoms)	0.0000E+00	1.4506E+22
Organic I (atoms)	0.0000E+00	1.8411E+22
Aerosols (kg)	0.0000E+00	7.9907E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	9.5497E-02	3.0033E-09	3.1183E+16	2.2316E+14
Co-60	1.1502E-01	1.0175E-07	1.0213E+18	2.6796E+14
Kr-85	1.2054E+04	3.0725E-02	2.1768E+23	1.5381E+19
Kr-85m	1.6339E+04	1.9854E-06	1.4067E+19	5.8519E+19
Kr-87	6.1256E+01	2.1626E-09	1.4969E+16	1.0884E+19
Kr-88	1.0650E+04	8.4936E-07	5.8125E+18	8.0743E+19
Rb-86	3.5567E+00	4.3711E-08	3.0609E+17	9.3217E+15
Sr-89	1.3530E+02	4.6572E-06	3.1513E+19	3.1659E+17
Sr-90	1.8844E+01	1.3815E-04	9.2437E+20	4.3897E+16
Sr-91	5.2928E+01	1.4601E-08	9.6624E+16	2.2814E+17
Sr-92	3.0630E+00	2.4369E-10	1.5951E+15	8.6903E+16
Y-90	2.9142E+00	5.3564E-09	3.5841E+16	3.4565E+15
Y-91	2.0203E+00	8.2382E-08	5.4518E+17	4.4298E+15
Y-92	1.4347E+01	1.4910E-09	9.7595E+15	7.1157E+16
Y-93	7.0081E-01	2.1005E-10	1.3602E+15	2.9050E+15
Zr-95	2.3013E+00	1.0712E-07	6.7907E+17	5.3797E+15
Zr-97	1.1937E+00	6.2444E-10	3.8767E+15	3.8863E+15
Nb-95	2.3340E+00	5.9688E-08	3.7837E+17	5.4370E+15
Mo-99	2.7135E+01	5.6576E-08	3.4415E+17	6.8672E+16
Tc-99m	2.6315E+01	5.0045E-09	3.0442E+16	6.2884E+16

Ru-103	2.6779E+01	8.2973E-07	4.8512E+18	6.2738E+16
Ru-105	1.5913E+00	2.3673E-10	1.3577E+15	1.5334E+16
Ru-106	1.1867E+01	3.5470E-06	2.0152E+19	2.7660E+16
Rh-105	1.5132E+01	1.7927E-08	1.0282E+17	3.9607E+16
Sb-127	3.3164E+01	1.2418E-07	5.8886E+17	8.1950E+16
Sb-129	8.5103E+00	1.5134E-09	7.0649E+15	8.5745E+16
Te-127	3.4908E+01	1.3227E-08	6.2720E+16	8.3149E+16
Te-127m	5.0086E+00	5.3099E-07	2.5179E+18	1.1661E+16
Te-129	2.4731E+01	1.1809E-09	5.5128E+15	1.1103E+17
Te-129m	1.6118E+01	5.3502E-07	2.4976E+18	3.7718E+16
Te-131m	3.4273E+01	4.2980E-08	1.9758E+17	9.6057E+16
Te-132	4.1963E+02	1.3822E-06	6.3060E+18	1.0482E+18
I-131	2.1691E+03	1.7497E-05	8.0433E+19	5.1162E+18
I-132	5.1130E+02	4.9534E-08	2.2599E+17	2.5912E+18
I-133	2.7587E+03	2.4353E-06	1.1027E+19	8.3032E+18
I-134	1.6608E-02	6.2255E-13	2.7978E+12	5.0690E+17
I-135	8.2032E+02	2.3358E-07	1.0420E+18	4.7245E+18
Xe-133	1.2792E+06	6.8339E-03	3.0943E+22	1.6832E+21
Xe-135	2.0147E+05	7.8891E-05	3.5192E+20	4.0795E+20
Cs-134	4.5031E+02	3.4804E-04	1.5642E+21	1.1657E+18
Cs-136	1.0632E+02	1.4507E-06	6.4236E+18	2.8016E+17
Cs-137	2.8607E+02	3.2889E-03	1.4457E+22	7.4033E+17
Ba-139	8.0113E-02	4.8978E-12	2.1220E+13	4.6159E+16
Ba-140	2.3315E+02	3.1847E-06	1.3699E+19	5.5282E+17
La-140	5.4582E+01	9.8200E-08	4.2241E+17	6.4742E+16
La-141	1.3589E-01	2.4029E-11	1.0263E+14	1.6161E+15
La-142	1.6534E-03	1.1550E-13	4.8984E+11	4.8432E+14
Ce-141	5.6447E+00	1.9811E-07	8.4612E+17	1.3233E+16
Ce-143	3.8130E+00	5.7418E-09	2.4180E+16	1.0505E+16
Ce-144	4.7450E+00	1.4877E-06	6.2216E+18	1.1062E+16
Pr-143	2.1405E+00	3.1787E-08	1.3386E+17	4.9027E+15
Nd-147	8.7472E-01	1.0813E-08	4.4296E+16	2.0800E+15
Np-239	5.5840E+01	2.4070E-07	6.0650E+17	1.4333E+17
Pu-238	2.6469E-02	1.5461E-06	3.9121E+18	6.1655E+13
Pu-239	1.5711E-03	2.5277E-05	6.3691E+19	3.6562E+12
Pu-240	1.5805E-03	6.9359E-06	1.7404E+19	3.6816E+12
Pu-241	9.4203E-01	9.1448E-06	2.2851E+19	2.1945E+15
Am-241	6.6949E-04	1.9506E-07	4.8743E+17	1.5564E+12
Cm-242	1.3069E-01	3.9433E-08	9.8128E+16	3.0486E+14
Cm-244	1.6842E-02	2.0818E-07	5.1380E+17	3.9233E+13

Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump
Noble gases (atoms)	2.4900E+23	0.0000E+00
Elemental I (atoms)	8.3176E+18	0.0000E+00
Organic I (atoms)	1.2867E+19	0.0000E+00
Aerosols (kg)	3.8529E-03	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.1673E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.6980E-08
Total I (Ci)		6.2594E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.2303E+23
Elemental I (atoms)	1.4060E+19
Organic I (atoms)	1.8007E+19
Aerosols (kg)	7.6224E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7877E+23
Elemental I (atoms)	1.2162E+19	1.3729E+18
Organic I (atoms)	1.3771E+19	1.5311E+18
Aerosols (kg)	8.5698E-03	1.9688E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	2.0696E+23
Elemental I (atoms)	9.0662E+18
Organic I (atoms)	1.1507E+19
Aerosols (kg)	4.9940E-03

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1095E-01	2.4177E-01	1.2223E-01
Accumulated dose (rem)	4.8544E-01	1.9628E+00	5.7587E-01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8521E-02	4.3169E-02	4.0534E-02
Accumulated dose (rem)	2.0756E-01	3.5576E-01	2.2470E-01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2145E-03	1.2953E-02	1.8203E-03
Accumulated dose (rem)	6.7250E-03	4.3071E+00	1.9828E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.5970E+00	1.4457E-07	1.5010E+18	2.3640E+16
Co-60	5.5541E+00	4.9134E-06	4.9315E+19	2.8383E+16
Kr-85	8.1233E+05	2.0705E+00	1.4669E+25	2.5239E+21
Kr-85m	3.1937E+05	3.8807E-05	2.7494E+20	9.5909E+21
Kr-87	5.2722E+01	1.8613E-09	1.2884E+16	3.7394E+21
Kr-88	1.0186E+05	8.1233E-06	5.5590E+19	1.5585E+22
Rb-86	1.5738E+02	1.9342E-06	1.3544E+19	9.3081E+17
Sr-89	6.5045E+03	2.2389E-04	1.5149E+21	3.3537E+19
Sr-90	9.1004E+02	6.6715E-03	4.4641E+22	4.6497E+18
Sr-91	1.4259E+03	3.9335E-07	2.6031E+18	2.6487E+19
Sr-92	1.9116E+01	1.5208E-09	9.9550E+15	1.6388E+19
Y-90	2.0433E+02	3.7557E-07	2.5130E+18	3.4718E+17
Y-91	1.0026E+02	4.0882E-06	2.7055E+19	4.6213E+17
Y-92	1.8589E+02	1.9318E-08	1.2645E+17	3.4806E+18
Y-93	1.9546E+01	5.8585E-09	3.7936E+16	3.3423E+17
Zr-95	1.1074E+02	5.1548E-06	3.2677E+19	5.6987E+17
Zr-97	4.1524E+01	2.1721E-08	1.3485E+17	4.2579E+17
Nb-95	1.1270E+02	2.8821E-06	1.8270E+19	5.7590E+17
Mo-99	1.2048E+03	2.5121E-06	1.5281E+19	7.2978E+18
Tc-99m	1.2063E+03	2.2942E-07	1.3955E+18	6.6243E+18
Ru-103	1.2857E+03	3.9836E-05	2.3291E+20	6.6461E+18
Ru-105	2.2042E+01	3.2791E-09	1.8807E+16	2.2033E+18
Ru-106	5.7274E+02	1.7119E-04	9.7260E+20	2.9299E+18
Rh-105	6.3103E+02	7.4762E-07	4.2879E+18	4.1542E+18
Sb-127	1.5083E+03	5.6481E-06	2.6782E+19	8.6971E+18
Sb-129	1.1386E+02	2.0248E-08	9.4523E+16	1.2470E+19
Te-127	1.6316E+03	6.1825E-07	2.9316E+18	8.7976E+18
Te-127m	2.4197E+02	2.5652E-05	1.2164E+20	1.2351E+18
Te-129	8.2871E+02	3.9571E-08	1.8473E+17	1.4728E+19
Te-129m	7.7340E+02	2.5673E-05	1.1985E+20	3.9918E+18
Te-131m	1.3758E+03	1.7254E-06	7.9317E+18	1.0301E+19
Te-132	1.8878E+04	6.2184E-05	2.8370E+20	1.1131E+20
I-131	1.0490E+05	8.4614E-04	3.8898E+21	5.5098E+20
I-132	2.2591E+04	2.1886E-06	9.9851E+18	4.3849E+20
I-133	1.0513E+05	9.2807E-05	4.2022E+20	9.1127E+20
I-134	1.4794E-03	5.5456E-14	2.4923E+11	2.4872E+20
I-135	1.7639E+04	5.0226E-06	2.2405E+19	5.9533E+20

Xe-133	8.2495E+07	4.4072E-01	1.9955E+24	2.7328E+23
Xe-135	7.3836E+06	2.8913E-03	1.2898E+22	6.2386E+22
Cs-134	2.0168E+04	1.5588E-02	7.0054E+22	1.1628E+20
Cs-136	4.6799E+03	6.3854E-05	2.8275E+20	2.7988E+19
Cs-137	1.2816E+04	1.4734E-01	6.4767E+23	7.3850E+19
Ba-139	6.9245E-02	4.2334E-12	1.8341E+13	1.4779E+19
Ba-140	1.1057E+04	1.5104E-04	6.4970E+20	5.8577E+19
La-140	3.7326E+03	6.7154E-06	2.8886E+19	6.3558E+18
La-141	1.6007E+00	2.8304E-10	1.2089E+15	2.4572E+17
La-142	2.1887E-03	1.5289E-13	6.4841E+11	1.4073E+17
Ce-141	2.7071E+02	9.5009E-06	4.0578E+19	1.4015E+18
Ce-143	1.5566E+02	2.3441E-07	9.8715E+17	1.1244E+18
Ce-144	2.2897E+02	7.1789E-05	3.0022E+20	1.1717E+18
Pr-143	1.0447E+02	1.5514E-06	6.5332E+18	5.1806E+17
Nd-147	4.1364E+01	5.1131E-07	2.0947E+18	2.2041E+17
Np-239	2.4448E+03	1.0538E-05	2.6553E+19	1.5246E+19
Pu-238	1.2783E+00	7.4669E-05	1.8894E+20	6.5307E+15
Pu-239	7.5944E-02	1.2218E-03	3.0787E+21	3.8727E+14
Pu-240	7.6328E-02	3.3497E-04	8.4051E+20	3.8997E+14
Pu-241	4.5493E+01	4.4162E-04	1.1035E+21	2.3245E+17
Am-241	3.2399E-02	9.4397E-06	2.3588E+19	1.6485E+14
Cm-242	6.3028E+00	1.9017E-06	4.7323E+18	3.2293E+16
Cm-244	8.1334E-01	1.0053E-05	2.4813E+19	4.1558E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.6678E+25	0.0000E+00
Elemental I (atoms)	4.6881E+20	5.5507E+22
Organic I (atoms)	8.1376E+20	0.0000E+00
Aerosols (kg)	1.7326E-01	5.0877E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	4.5740E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	5.0290E-05
Total I (Ci)		2.5026E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Leakage Transport
Noble gases (atoms)	4.9122E+23
Elemental I (atoms)	1.8932E+19
Organic I (atoms)	2.6463E+19
Aerosols (kg)	9.3640E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2121E+26
Elemental I (atoms)	0.0000E+00	2.0102E+22
Organic I (atoms)	0.0000E+00	2.8079E+22
Aerosols (kg)	0.0000E+00	9.9499E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0960E+26
Elemental I (atoms)	0.0000E+00	1.9675E+22
Organic I (atoms)	0.0000E+00	2.7384E+22
Aerosols (kg)	0.0000E+00	9.8386E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	8.7034E-02	2.7371E-09	2.8419E+16	3.1927E+14
Co-60	1.0515E-01	9.3025E-08	9.3368E+17	3.8389E+14
Kr-85	1.3515E+04	3.4448E-02	2.4406E+23	2.9231E+19
Kr-85m	5.3135E+03	6.4566E-07	4.5744E+18	6.9176E+19

Kr-87	8.7716E-01	3.0967E-11	2.1435E+14	1.0899E+19
Kr-88	1.6947E+03	1.3515E-07	9.2489E+17	8.6034E+19
Rb-86	3.0791E+00	3.7842E-08	2.6499E+17	1.2794E+16
Sr-89	1.2315E+02	4.2389E-06	2.8682E+19	4.5267E+17
Sr-90	1.7230E+01	1.2631E-04	8.4518E+20	6.2892E+16
Sr-91	2.6996E+01	7.4472E-09	4.9283E+16	2.6872E+17
Sr-92	3.6192E-01	2.8793E-11	1.8848E+14	8.8235E+16
Y-90	3.8740E+00	7.1205E-09	4.7645E+16	6.9570E+15
Y-91	1.8993E+00	7.7445E-08	5.1251E+17	6.4934E+15
Y-92	3.5296E+00	3.6681E-10	2.4011E+15	7.9263E+16
Y-93	3.7006E-01	1.1092E-10	7.1824E+14	3.4507E+15
Zr-95	2.0966E+00	9.7596E-08	6.1867E+17	7.6954E+15
Zr-97	7.8617E-01	4.1124E-10	2.5532E+15	4.9144E+15
Nb-95	2.1337E+00	5.4567E-08	3.4590E+17	7.7886E+15
Mo-99	2.2811E+01	4.7561E-08	2.8931E+17	9.4923E+16
Tc-99m	2.2839E+01	4.3435E-09	2.6421E+16	8.7441E+16
Ru-103	2.4341E+01	7.5421E-07	4.4097E+18	8.9653E+16
Ru-105	4.1732E-01	6.2083E-11	3.5607E+14	1.6258E+16
Ru-106	1.0844E+01	3.2412E-06	1.8414E+19	3.9618E+16
Rh-105	1.1947E+01	1.4155E-08	8.1182E+16	5.3812E+16
Sb-127	2.8557E+01	1.0693E-07	5.0706E+17	1.1441E+17
Sb-129	2.1557E+00	3.8335E-10	1.7896E+15	9.0619E+16
Te-127	3.0891E+01	1.1705E-08	5.5504E+16	1.1662E+17
Te-127m	4.5811E+00	4.8567E-07	2.3030E+18	1.6710E+16
Te-129	1.5690E+01	7.4919E-10	3.4975E+15	1.2692E+17
Te-129m	1.4643E+01	4.8606E-07	2.2691E+18	5.3914E+16
Te-131m	2.6049E+01	3.2667E-08	1.5017E+17	1.2764E+17
Te-132	3.5742E+02	1.1773E-06	5.3712E+18	1.4568E+18
I-131	1.9611E+03	1.5819E-05	7.2720E+19	7.2954E+18
I-132	4.2762E+02	4.1427E-08	1.8900E+17	3.0184E+18
I-133	1.9655E+03	1.7351E-06	7.8562E+18	1.0774E+19
I-134	2.7658E-05	1.0368E-15	4.6594E+09	5.0690E+17
I-135	3.2976E+02	9.3900E-08	4.1887E+17	5.2928E+18
Xe-133	1.3725E+06	7.3326E-03	3.3202E+22	3.1206E+21
Xe-135	1.2289E+05	4.8122E-05	2.1467E+20	5.8042E+20
Cs-134	3.9458E+02	3.0497E-04	1.3706E+21	1.6079E+18
Cs-136	9.1560E+01	1.2493E-06	5.5318E+18	3.8369E+17
Cs-137	2.5074E+02	2.8827E-03	1.2671E+22	1.0213E+18
Ba-139	1.3110E-03	8.0150E-14	3.4725E+11	4.6180E+16
Ba-140	2.0935E+02	2.8596E-06	1.2301E+19	7.8575E+17
La-140	7.0764E+01	1.2731E-07	5.4764E+17	1.2938E+17
La-141	3.0305E-02	5.3587E-12	2.2887E+13	1.6902E+15
La-142	4.1437E-05	2.8947E-15	1.2276E+10	4.8478E+14
Ce-141	5.1253E+00	1.7988E-07	7.6825E+17	1.8904E+16
Ce-143	2.9472E+00	4.4380E-09	1.8690E+16	1.4047E+16
Ce-144	4.3350E+00	1.3592E-06	5.6841E+18	1.5843E+16
Pr-143	1.9781E+00	2.9375E-08	1.2371E+17	7.0688E+15
Nd-147	7.8314E-01	9.6806E-09	3.9658E+16	2.9526E+15
Np-239	4.6286E+01	1.9952E-07	5.0273E+17	1.9698E+17
Pu-238	2.4202E-02	1.4137E-06	3.5771E+18	8.8336E+13
Pu-239	1.4378E-03	2.3133E-05	5.8288E+19	5.2406E+12
Pu-240	1.4451E-03	6.3419E-06	1.5913E+19	5.2747E+12
Pu-241	8.6131E-01	8.3612E-06	2.0893E+19	3.1441E+15
Am-241	6.1340E-04	1.7872E-07	4.4659E+17	2.2318E+12
Cm-242	1.1933E-01	3.6004E-08	8.9596E+16	4.3651E+14
Cm-244	1.5399E-02	1.9034E-07	4.6977E+17	5.6210E+13

Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7748E+23	0.0000E+00	
Elemental I (atoms)	8.1413E+18	0.0000E+00	
Organic I (atoms)	1.3553E+19	0.0000E+00	
Aerosols (kg)	3.3836E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.6105E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.9700E-08
Total I (Ci)			4.6840E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.9122E+23
Elemental I (atoms)	1.8932E+19
Organic I (atoms)	2.6463E+19
Aerosols (kg)	9.3640E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2837E+23
Elemental I (atoms)	1.9162E+19	2.1507E+18
Organic I (atoms)	2.5080E+19	2.7877E+18
Aerosols (kg)	1.1867E-02	2.6418E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	3.1850E+23
Elemental I (atoms)	1.2297E+19
Organic I (atoms)	1.7115E+19
Aerosols (kg)	6.1489E-03

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3723E-01	4.3067E-01	1.5744E-01
Accumulated dose (rem)	6.2267E-01	2.3935E+00	7.3332E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9118E-02	3.9428E-02	2.0969E-02
Accumulated dose (rem)	2.2668E-01	3.9519E-01	2.4567E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.1903E-04	6.3043E-03	7.1497E-04
Accumulated dose (rem)	7.1440E-03	4.3134E+00	1.9899E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4844E+00	1.4103E-07	1.4643E+18	3.8150E+16
Co-60	5.4694E+00	4.8385E-06	4.8564E+19	4.5997E+16
Kr-85	8.0010E+05	2.0393E+00	1.4448E+25	5.1004E+21
Kr-85m	7.6756E+03	9.3269E-07	6.6080E+18	9.8580E+21
Kr-87	1.0819E-04	3.8194E-15	2.6438E+10	3.7395E+21
Kr-88	2.8679E+02	2.2872E-08	1.5652E+17	1.5640E+22
Rb-86	1.4939E+02	1.8359E-06	1.2856E+19	1.4209E+18
Sr-89	6.3203E+03	2.1755E-04	1.4720E+21	5.4028E+19
Sr-90	8.9643E+02	6.5718E-03	4.3973E+22	7.5362E+18
Sr-91	2.4382E+02	6.7261E-08	4.4512E+17	2.8626E+19
Sr-92	4.0638E-02	3.2331E-12	2.1163E+13	1.6398E+19
Y-90	3.6152E+02	6.6449E-07	4.4463E+18	1.2481E+18
Y-91	1.0088E+02	4.1134E-06	2.7222E+19	7.8479E+17
Y-92	2.1387E+00	2.2227E-10	1.4549E+15	3.6151E+18
Y-93	3.7087E+00	1.1116E-09	7.1982E+15	3.6468E+17
Zr-95	1.0792E+02	5.0234E-06	3.1844E+19	9.1925E+17
Zr-97	1.5286E+01	7.9960E-09	4.9642E+16	5.0970E+17
Nb-95	1.1095E+02	2.8374E-06	1.7987E+19	9.3313E+17
Mo-99	9.2247E+02	1.9233E-06	1.1700E+19	1.0677E+19
Tc-99m	9.4395E+02	1.7952E-07	1.0920E+18	9.8828E+18
Ru-103	1.2444E+03	3.8557E-05	2.2543E+20	1.0688E+19

Ru-105	5.1233E-01	7.6217E-11	4.3713E+14	2.2216E+18
Ru-106	5.6315E+02	1.6833E-04	9.5632E+20	4.7449E+18
Rh-105	3.9024E+02	4.6234E-07	2.6517E+18	5.7571E+18
Sb-127	1.2411E+03	4.6473E-06	2.2037E+19	1.3076E+19
Sb-129	2.3849E+00	4.2411E-10	1.9799E+15	1.2562E+19
Te-127	1.4101E+03	5.3433E-07	2.5337E+18	1.3498E+19
Te-127m	2.3840E+02	2.5275E-05	1.1985E+20	2.0026E+18
Te-129	6.4883E+02	3.0982E-08	1.4463E+17	1.6416E+19
Te-129m	7.4646E+02	2.4778E-05	1.1567E+20	6.4202E+18
Te-131m	7.7845E+02	9.7623E-07	4.4878E+18	1.3653E+19
Te-132	1.5034E+04	4.9519E-05	2.2592E+20	1.6526E+20
I-131	9.4870E+04	7.6523E-04	3.5178E+21	8.6993E+20
I-132	1.7944E+04	1.7384E-06	7.9311E+18	4.9436E+20
I-133	4.6546E+04	4.1089E-05	1.8605E+20	1.1411E+21
I-135	1.4027E+03	3.9941E-07	1.7817E+18	6.1582E+20
Xe-133	7.1215E+07	3.8046E-01	1.7227E+24	5.1845E+23
Xe-135	1.1699E+06	4.5813E-04	2.0437E+21	7.3166E+22
Cs-134	1.9850E+04	1.5342E-02	6.8948E+22	1.8023E+20
Cs-136	4.3727E+03	5.9662E-05	2.6419E+20	4.2448E+19
Cs-137	1.2624E+04	1.4514E-01	6.3799E+23	1.1450E+20
Ba-139	3.9106E-07	2.3908E-17	1.0358E+08	1.4779E+19
Ba-140	1.0316E+04	1.4091E-04	6.0613E+20	9.2716E+19
La-140	6.0445E+03	1.0875E-05	4.6778E+19	2.2029E+19
La-141	2.2879E-02	4.0455E-12	1.7279E+13	2.4691E+17
La-142	4.4397E-08	3.1015E-18	1.3153E+07	1.4073E+17
Ce-141	2.6106E+02	9.1622E-06	3.9132E+19	2.2512E+18
Ce-143	9.2628E+01	1.3948E-07	5.8740E+17	1.5125E+18
Ce-144	2.2501E+02	7.0548E-05	2.9503E+20	1.8971E+18
Pr-143	1.0378E+02	1.5412E-06	6.4902E+18	8.5124E+17
Nd-147	3.8256E+01	4.7288E-07	1.9373E+18	3.4757E+17
Np-239	1.7943E+03	7.7343E-06	1.9488E+19	2.1966E+19
Pu-238	1.2594E+00	7.3564E-05	1.8614E+20	1.0586E+16
Pu-239	7.4978E-02	1.2063E-03	3.0395E+21	6.2842E+14
Pu-240	7.5191E-02	3.2998E-04	8.2799E+20	6.3208E+14
Pu-241	4.4810E+01	4.3499E-04	1.0870E+21	3.7674E+17
Am-241	3.2113E-02	9.3565E-06	2.3380E+19	2.6792E+14
Cm-242	6.1825E+00	1.8654E-06	4.6421E+18	5.2242E+16
Cm-244	8.0115E-01	9.9027E-06	2.4441E+19	6.7355E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6173E+25	0.0000E+00	
Elemental I (atoms)	4.0092E+20	5.5507E+22	
Organic I (atoms)	6.9593E+20	0.0000E+00	
Aerosols (kg)	1.7054E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.8201E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.0175E-05
Total I (Ci)			1.6076E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.3760E+23
Elemental I (atoms)	2.5437E+19
Organic I (atoms)	3.7755E+19
Aerosols (kg)	1.1942E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0441E+27
Elemental I (atoms)	0.0000E+00	3.3907E+22
Organic I (atoms)	0.0000E+00	5.2042E+22
Aerosols (kg)	0.0000E+00	1.5422E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0325E+27
Elemental I (atoms)	0.0000E+00	3.3480E+22
Organic I (atoms)	0.0000E+00	5.1347E+22
Aerosols (kg)	0.0000E+00	1.5310E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.2672E-02	1.3420E-09	1.3934E+16	4.9474E+14
Co-60	5.2045E-02	4.6042E-08	4.6212E+17	5.9678E+14
Kr-85	7.5019E+03	1.9121E-02	1.3547E+23	5.8496E+19
Kr-85m	7.1968E+01	8.7451E-09	6.1958E+16	7.2691E+19
Kr-87	1.0144E-06	3.5812E-17	2.4789E+08	1.0900E+19
Kr-88	2.6891E+00	2.1445E-10	1.4676E+15	8.6800E+19
Rb-86	1.4272E+00	1.7541E-08	1.2283E+17	1.8828E+16
Sr-89	6.0142E+01	2.0701E-06	1.4007E+19	7.0051E+17
Sr-90	8.5302E+00	6.2535E-05	4.1844E+20	9.7779E+16
Sr-91	2.3201E+00	6.4003E-10	4.2356E+15	2.9710E+17
Sr-92	3.8670E-04	3.0765E-14	2.0138E+11	8.8387E+16
Y-90	3.4404E+00	6.3235E-09	4.2312E+16	1.7508E+16
Y-91	9.5998E-01	3.9145E-08	2.5905E+17	1.0389E+16
Y-92	2.0357E-02	2.1156E-12	1.3848E+13	8.1247E+16
Y-93	3.5291E-02	1.0578E-11	6.8495E+13	3.8526E+15
Zr-95	1.0269E+00	4.7801E-08	3.0301E+17	1.1920E+16
Zr-97	1.4545E-01	7.6087E-11	4.7238E+14	5.9843E+15
Nb-95	1.0558E+00	2.7000E-08	1.7116E+17	1.2106E+16
Mo-99	8.7779E+00	1.8302E-08	1.1133E+17	1.3633E+17
Tc-99m	8.9824E+00	1.7082E-09	1.0391E+16	1.2732E+17
Ru-103	1.1841E+01	3.6689E-07	2.1451E+18	1.3856E+17
Ru-105	4.8752E-03	7.2525E-13	4.1596E+12	1.6522E+16
Ru-106	5.3588E+00	1.6018E-06	9.1000E+18	6.1557E+16
Rh-105	3.7134E+00	4.3995E-09	2.5233E+16	7.3683E+16
Sb-127	1.1810E+01	4.4222E-08	2.0969E+17	1.6786E+17
Sb-129	2.2694E-02	4.0357E-12	1.8840E+13	9.1954E+16
Te-127	1.3418E+01	5.0845E-09	2.4110E+16	1.7383E+17
Te-127m	2.2686E+00	2.4051E-07	1.1404E+18	2.5986E+16
Te-129	6.1740E+00	2.9481E-10	1.3763E+15	1.4758E+17
Te-129m	7.1030E+00	2.3578E-07	1.1007E+18	8.3297E+16
Te-131m	7.4075E+00	9.2895E-09	4.2704E+16	1.6940E+17
Te-132	1.4306E+02	4.7121E-07	2.1498E+18	2.1165E+18
I-131	9.0138E+02	7.2707E-06	3.3424E+19	1.1144E+19
I-132	1.7075E+02	1.6542E-08	7.5470E+16	3.7017E+18
I-133	4.4224E+02	3.9040E-07	1.7677E+18	1.3655E+19
I-135	1.3327E+01	3.7949E-09	1.6928E+16	5.5723E+18
Xe-133	6.6773E+05	3.5673E-03	1.6152E+22	5.9219E+21
Xe-135	1.0971E+04	4.2959E-06	1.9163E+19	7.1313E+20
Cs-134	1.8964E+02	1.4658E-04	6.5873E+20	2.3936E+18
Cs-136	4.1777E+01	5.7001E-07	2.5240E+18	5.6189E+17
Cs-137	1.2061E+02	1.3867E-03	6.0954E+21	1.5208E+18
Ba-139	3.7212E-09	2.2750E-19	9.8563E+05	4.6180E+16
Ba-140	9.8163E+01	1.3409E-06	5.7678E+18	1.1996E+18
La-140	5.7521E+01	1.0349E-07	4.4515E+17	3.1377E+17
La-141	2.1771E-04	3.8496E-14	1.6442E+11	1.7076E+15
La-142	4.2247E-10	2.9512E-20	1.2516E+05	4.8479E+14
Ce-141	2.4842E+00	8.7184E-08	3.7237E+17	2.9184E+16
Ce-143	8.8142E-01	1.3273E-09	5.5896E+15	1.8868E+16
Ce-144	2.1411E+00	6.7131E-07	2.8074E+18	2.4611E+16
Pr-143	9.8754E-01	1.4665E-08	6.1760E+16	1.1094E+16
Nd-147	3.6403E-01	4.4998E-09	1.8434E+16	4.4948E+15
Np-239	1.7074E+01	7.3597E-08	1.8544E+17	2.7951E+17
Pu-238	1.1984E-02	7.0001E-07	1.7712E+18	1.3734E+14
Pu-239	7.1347E-04	1.1479E-05	2.8923E+19	8.1549E+12
Pu-240	7.1550E-04	3.1400E-06	7.8789E+18	8.2009E+12
Pu-241	4.2639E-01	4.1392E-06	1.0343E+19	4.8880E+15

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Am-241                 3.0558E-04  8.9033E-08  2.2248E+17  3.4771E+12
Cm-242                 5.8831E-02  1.7751E-08  4.4172E+16  6.7768E+14
Cm-244                 7.6235E-03  9.4231E-08  2.3257E+17  8.7390E+13

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.5164E+23  0.0000E+00
Elemental I (atoms)    3.7769E+18  0.0000E+00
Organic I (atoms)      6.5259E+18  0.0000E+00
Aerosols (kg)          1.6290E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5325E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.6117E-08
Total I (Ci)                                   1.5277E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      7.3760E+23
Elemental I (atoms)      2.5437E+19
Organic I (atoms)        3.7755E+19
Aerosols (kg)            1.1942E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0610E+24
Elemental I (atoms)    3.2173E+19  3.5963E+18
Organic I (atoms)      4.7195E+19  5.2449E+18
Aerosols (kg)          1.7787E-02  3.8500E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      4.8189E+23
Elemental I (atoms)      1.6611E+19
Organic I (atoms)        2.4603E+19
Aerosols (kg)            7.8589E-03

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2729E-01  5.1798E-01  1.5305E-01
Accumulated dose (rem)  7.4996E-01  2.9115E+00  8.8637E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7734E-02  4.7421E-02  2.0092E-02
Accumulated dose (rem)  2.4441E-01  4.4261E-01  2.6576E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.5354E-04  6.9751E-03  7.0042E-04
Accumulated dose (rem)  7.4976E-03  4.3203E+00  1.9969E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.2675E+00  1.3421E-07  1.3935E+18  6.6114E+16
Co-60                  5.3039E+00  4.6921E-06  4.7095E+19  8.0424E+16
Kr-85                  7.7618E+05  1.9784E+00  1.4016E+25  1.0137E+22
Kr-85m                 4.4337E+00  5.3875E-10  3.8170E+15  9.8646E+21
Kr-88                  2.2736E-03  1.8132E-13  1.2408E+12  1.5641E+22
Rb-86                  1.3459E+02  1.6541E-06  1.1583E+19  2.3276E+18
Sr-89                  5.9674E+03  2.0540E-04  1.3899E+21  9.3286E+19
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Sr-90	8.6983E+02	6.3767E-03	4.2668E+22	1.3180E+19
Sr-91	7.1293E+00	1.9667E-09	1.3015E+16	2.9055E+19
Sr-92	1.8366E-07	1.4611E-17	9.5643E+07	1.6398E+19
Y-90	5.6317E+02	1.0351E-06	6.9262E+18	4.2388E+18
Y-91	9.6245E+01	3.9245E-06	2.5971E+19	1.4156E+18
Y-92	1.8307E-04	1.9025E-14	1.2453E+11	3.6165E+18
Y-93	1.3352E-01	4.0021E-11	2.5915E+14	3.7156E+17
Zr-95	1.0248E+02	4.7704E-06	3.0240E+19	1.5915E+18
Zr-97	2.0714E+00	1.0835E-09	6.7271E+15	5.5196E+17
Nb-95	1.0748E+02	2.7485E-06	1.7423E+19	1.6309E+18
Mo-99	5.4074E+02	1.1275E-06	6.8583E+18	1.5245E+19
Tc-99m	5.5439E+02	1.0543E-07	6.4134E+17	1.4328E+19
Ru-103	1.1657E+03	3.6120E-05	2.1118E+20	1.8388E+19
Ru-105	2.7679E-04	4.1176E-14	2.3616E+11	2.2220E+18
Ru-106	5.4446E+02	1.6274E-04	9.2456E+20	8.2843E+18
Rh-105	1.4782E+02	1.7514E-07	1.0045E+18	7.3533E+18
Sb-127	8.4020E+02	3.1462E-06	1.4919E+19	1.9645E+19
Sb-129	1.0463E-03	1.8607E-13	8.6862E+11	1.2564E+19
Te-127	1.0300E+03	3.9027E-07	1.8506E+18	2.0971E+19
Te-127m	2.3073E+02	2.4461E-05	1.1599E+20	3.5021E+18
Te-129	6.0108E+02	2.8702E-08	1.3399E+17	1.9417E+19
Te-129m	6.9512E+02	2.3074E-05	1.0772E+20	1.1025E+19
Te-131m	2.4920E+02	3.1252E-07	1.4367E+18	1.6623E+19
Te-132	9.5337E+03	3.1403E-05	1.4327E+20	2.4245E+20
I-131	7.7540E+04	6.2545E-04	2.8752E+21	1.4191E+21
I-132	1.1379E+04	1.1024E-06	5.0295E+18	5.7426E+20
I-133	9.1236E+03	8.0540E-06	3.6468E+19	1.2878E+21
I-135	8.8701E+00	2.5258E-09	1.1267E+16	6.1758E+20
Xe-133	5.3063E+07	2.8349E-01	1.2836E+24	9.1278E+23
Xe-135	2.9272E+04	1.1463E-05	5.1133E+19	7.5143E+22
Cs-134	1.9227E+04	1.4861E-02	6.6787E+22	3.0510E+20
Cs-136	3.8173E+03	5.2085E-05	2.3063E+20	6.8581E+19
Cs-137	1.2250E+04	1.4083E-01	6.1906E+23	1.9399E+20
Ba-140	8.9789E+03	1.2265E-04	5.2757E+20	1.5428E+20
La-140	7.9074E+03	1.4226E-05	6.1195E+19	6.7509E+19
La-141	4.6742E-06	8.2650E-16	3.5300E+09	2.4693E+17
Ce-141	2.4277E+02	8.5201E-06	3.6390E+19	3.8606E+18
Ce-143	3.2798E+01	4.9389E-08	2.0799E+17	1.8808E+18
Ce-144	2.1730E+02	6.8130E-05	2.8492E+20	3.3105E+18
Pr-143	9.6387E+01	1.4314E-06	6.0279E+18	1.4932E+18
Nd-147	3.2722E+01	4.0448E-07	1.6570E+18	5.7394E+17
Np-239	9.6653E+02	4.1662E-06	1.0498E+19	3.0518E+19
Pu-238	1.2224E+00	7.1402E-05	1.8067E+20	1.8516E+16
Pu-239	7.2970E-02	1.1740E-03	2.9581E+21	1.1013E+15
Pu-240	7.2970E-02	3.2023E-04	8.0353E+20	1.1055E+15
Pu-241	4.3474E+01	4.2202E-04	1.0546E+21	6.5886E+17
Am-241	3.1545E-02	9.1911E-06	2.2967E+19	4.7133E+14
Cm-242	5.9489E+00	1.7949E-06	4.4667E+18	9.1007E+16
Cm-244	7.7731E-01	9.6080E-06	2.3713E+19	1.1780E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5300E+25	0.0000E+00	
Elemental I (atoms)	3.1489E+20	5.5507E+22	
Organic I (atoms)	5.4660E+20	0.0000E+00	
Aerosols (kg)	1.6530E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9414E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9884E-05
Total I (Ci)			9.8052E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport	
Noble gases (atoms)	1.2095E+24
Elemental I (atoms)	3.6099E+19
Organic I (atoms)	5.6261E+19
Aerosols (kg)	1.6980E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0454E+27
Elemental I (atoms)	0.0000E+00	5.6531E+22
Organic I (atoms)	0.0000E+00	9.1314E+22
Aerosols (kg)	0.0000E+00	2.6111E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0338E+27
Elemental I (atoms)	0.0000E+00	5.6105E+22
Organic I (atoms)	0.0000E+00	9.0619E+22
Aerosols (kg)	0.0000E+00	2.6000E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	3.8018E-02	1.1956E-09	1.2414E+16	7.4670E+14
Co-60	4.7252E-02	4.1802E-08	4.1956E+17	9.0696E+14
Kr-85	6.9144E+03	1.7624E-02	1.2486E+23	1.0376E+20
Kr-85m	3.9496E-02	4.7994E-12	3.4003E+13	7.2751E+19
Kr-88	2.0254E-05	1.6152E-15	1.1054E+10	8.6801E+19
Rb-86	1.1991E+00	1.4736E-08	1.0319E+17	2.7006E+16
Sr-89	5.3163E+01	1.8299E-06	1.2382E+19	1.0543E+18
Sr-90	7.7491E+00	5.6809E-05	3.8012E+20	1.4863E+17
Sr-91	6.3514E-02	1.7521E-11	1.1595E+14	3.0101E+17
Sr-92	1.6362E-09	1.3017E-19	8.5207E+05	8.8388E+16
Y-90	5.0172E+00	9.2217E-09	6.1705E+16	4.4406E+16
Y-91	8.5743E-01	3.4963E-08	2.3138E+17	1.6073E+16
Y-92	1.6309E-06	1.6949E-16	1.1095E+09	8.1261E+16
Y-93	1.1895E-03	3.5654E-13	2.3087E+12	3.9153E+15
Zr-95	9.1300E-01	4.2499E-08	2.6940E+17	1.7978E+16
Zr-97	1.8454E-02	9.6531E-12	5.9930E+13	6.3681E+15
Nb-95	9.5749E-01	2.4486E-08	1.5522E+17	1.8393E+16
Mo-99	4.8174E+00	1.0044E-08	6.1099E+16	1.7757E+17
Tc-99m	4.9389E+00	9.3928E-10	5.7136E+15	1.6744E+17
Ru-103	1.0385E+01	3.2178E-07	1.8814E+18	2.0794E+17
Ru-105	2.4658E-06	3.6683E-16	2.1039E+09	1.6526E+16
Ru-106	4.8505E+00	1.4498E-06	8.2368E+18	9.3446E+16
Rh-105	1.3169E+00	1.5603E-09	8.9487E+15	8.8117E+16
Sb-127	7.4852E+00	2.8029E-08	1.3291E+17	2.2712E+17
Sb-129	9.3215E-06	1.6576E-15	7.7384E+09	9.1972E+16
Te-127	9.1757E+00	3.4768E-09	1.6486E+16	2.4123E+17
Te-127m	2.0556E+00	2.1792E-07	1.0334E+18	3.9496E+16
Te-129	5.3549E+00	2.5570E-10	1.1937E+15	1.7463E+17
Te-129m	6.1927E+00	2.0556E-07	9.5964E+17	1.2479E+17
Te-131m	2.2201E+00	2.7842E-09	1.2799E+16	1.9628E+17
Te-132	8.4934E+01	2.7976E-07	1.2763E+18	2.8130E+18
I-131	6.9079E+02	5.5720E-06	2.5615E+19	1.6093E+19
I-132	1.0138E+02	9.8214E-09	4.4807E+16	4.4227E+18
I-133	8.1281E+01	7.1751E-08	3.2488E+17	1.4985E+19
I-135	7.9022E-02	2.2501E-11	1.0038E+14	5.5885E+18
Xe-133	4.7270E+05	2.5254E-03	1.1435E+22	9.4681E+21
Xe-135	2.6077E+02	1.0211E-07	4.5551E+17	7.3109E+20
Cs-134	1.7130E+02	1.3240E-04	5.9500E+20	3.5195E+18
Cs-136	3.4008E+01	4.6402E-07	2.0547E+18	7.9761E+17
Cs-137	1.0913E+02	1.2547E-03	5.5152E+21	2.2374E+18
Ba-140	7.9991E+01	1.0926E-06	4.7000E+18	1.7545E+18
La-140	7.0446E+01	1.2674E-07	5.4518E+17	7.2306E+17
La-141	4.1641E-08	7.3632E-18	3.1448E+07	1.7078E+15
Ce-141	2.1628E+00	7.5905E-08	3.2419E+17	4.3687E+16
Ce-143	2.9220E-01	4.4000E-10	1.8530E+15	2.2200E+16

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Ce-144                 1.9359E+00  6.0696E-07  2.5383E+18  3.7346E+16
Pr-143                 8.5870E-01  1.2752E-08  5.3702E+16  1.6879E+16
Nd-147                 2.9151E-01  3.6034E-09  1.4762E+16  6.5353E+15
Np-239                 8.6106E+00  3.7116E-08  9.3522E+16  3.5674E+17
Pu-238                 1.0890E-02  6.3611E-07  1.6096E+18  2.0880E+14
Pu-239                 6.5008E-04  1.0459E-05  2.6353E+19  1.2415E+13
Pu-240                 6.5007E-04  2.8529E-06  7.1585E+18  1.2467E+13
Pu-241                 3.8730E-01  3.7598E-06  9.3949E+18  7.4298E+15
Am-241                 2.8103E-04  8.1882E-08  2.0461E+17  5.3097E+12
Cm-242                 5.2998E-02  1.5991E-08  3.9793E+16  1.0270E+15
Cm-244                 6.9249E-03  8.5596E-08  2.1126E+17  1.3284E+14

Reactor Building Transport Group Inventory:
Time (h) =  96.0000    Atmosphere     Sump
Noble gases (atoms)    1.3630E+23  0.0000E+00
Elemental I (atoms)    2.8052E+18  0.0000E+00
Organic I (atoms)      4.8693E+18  0.0000E+00
Aerosols (kg)          1.4727E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.1064E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1241E-08
Total I (Ci)                                   8.7353E+02

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      1.2095E+24
Elemental I (atoms)      3.6099E+19
Organic I (atoms)        5.6261E+19
Aerosols (kg)            1.6980E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8575E+24
Elemental I (atoms)    4.8395E+19  5.3987E+18
Organic I (atoms)      7.5326E+19  8.3706E+18
Aerosols (kg)          2.6149E-02  5.5564E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      7.9480E+23
Elemental I (atoms)      2.3681E+19
Organic I (atoms)        3.6876E+19
Aerosols (kg)            1.1199E-02

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4776E-01  2.0346E+00  5.1005E-01
Accumulated dose (rem)  1.0977E+00  4.9461E+00  1.3964E+00

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3054E-02  5.0189E-02  1.7057E-02
Accumulated dose (rem)  2.5747E-01  4.9280E-01  2.8282E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8543E-04  5.2493E-03  6.0290E-04
Accumulated dose (rem)  7.6830E-03  4.3256E+00  2.0029E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.2400E+00	7.0445E-08	7.3143E+17	3.2748E+17
Co-60	3.5576E+00	3.1472E-06	3.1589E+19	4.4376E+17
Kr-85	5.2310E+05	1.3333E+00	9.4463E+24	6.3427E+22
Rb-86	3.4689E+01	4.2633E-07	2.9854E+18	8.4501E+18
Sr-89	2.8277E+03	9.7330E-05	6.5858E+20	4.4259E+20
Sr-90	5.8792E+02	4.3101E-03	2.8840E+22	7.2981E+19
Y-90	5.9102E+02	1.0863E-06	7.2687E+18	6.0435E+19
Y-91	4.7899E+01	1.9532E-06	1.2925E+19	7.1730E+18
Zr-95	5.2353E+01	2.4370E-06	1.5448E+19	7.7928E+18
Zr-97	1.0763E-11	5.6301E-21	3.4954E+04	5.5858E+17
Nb-95	6.7315E+01	1.7215E-06	1.0913E+19	8.8134E+18
Mo-99	5.2181E-01	1.0880E-09	6.6182E+15	2.1710E+19
Tc-99m	5.3498E-01	1.0174E-10	6.1889E+14	2.0621E+19
Ru-103	4.9884E+02	1.5457E-05	9.0370E+19	8.3670E+19
Ru-106	3.5102E+02	1.0492E-04	5.9608E+20	4.4901E+19
Rh-105	4.8762E-04	5.7771E-13	3.3134E+12	8.3264E+18
Sb-127	5.2733E+00	1.9746E-08	9.3633E+16	3.3325E+19
Te-127	1.4331E+02	5.4304E-08	2.5750E+17	4.8218E+19
Te-127m	1.3556E+02	1.4371E-05	6.8146E+19	1.8476E+19
Te-129	2.3802E+02	1.1366E-08	5.3058E+16	4.3942E+19
Te-129m	2.7526E+02	9.1372E-06	4.2655E+19	4.8685E+19
Te-131m	9.2417E-05	1.1590E-13	5.3279E+11	1.8021E+19
Te-132	2.5574E+01	8.4239E-08	3.8432E+17	3.7588E+20
I-131	5.5831E+03	4.5034E-05	2.0702E+20	3.6921E+21
I-132	3.0526E+01	2.9573E-09	1.3492E+16	7.1237E+20
I-133	5.7530E-06	5.0785E-15	2.2995E+10	1.3236E+21
Xe-133	1.1566E+06	6.1792E-03	2.7979E+22	2.0401E+24
Cs-134	1.2710E+04	9.8238E-03	4.4149E+22	1.6133E+21
Cs-136	6.5301E+02	8.9098E-06	3.9453E+19	2.1749E+20
Cs-137	8.2802E+03	9.5195E-02	4.1845E+23	1.0362E+21
Ba-140	1.4774E+03	2.0181E-05	8.6808E+19	4.9968E+20
La-140	1.7162E+03	3.0876E-06	1.3281E+19	4.4692E+20
Ce-141	9.4406E+01	3.3133E-06	1.4151E+19	1.6912E+19
Ce-143	4.5110E-05	6.7929E-14	2.8607E+11	2.0827E+18
Ce-144	1.3809E+02	4.3294E-05	1.8106E+20	1.7827E+19
Pr-143	1.7940E+01	2.6642E-07	1.1220E+18	5.4410E+18
Nd-147	4.2918E+00	5.3051E-08	2.1734E+17	1.7369E+18
Np-239	3.1072E-01	1.3393E-09	3.3748E+15	4.0500E+19
Pu-238	8.2930E-01	4.8441E-05	1.2257E+20	1.0270E+17
Pu-239	4.9580E-02	7.9766E-04	2.0099E+21	6.1370E+15
Pu-240	4.9408E-02	2.1683E-04	5.4407E+20	6.1263E+15
Pu-241	2.9334E+01	2.8476E-04	7.1156E+20	3.6453E+18
Am-241	2.4710E-02	7.1995E-06	1.7990E+19	2.8009E+15
Cm-242	3.6057E+00	1.0879E-06	2.7073E+18	4.7987E+17
Cm-244	5.2485E-01	6.4875E-06	1.6012E+19	6.5194E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	9.4743E+24	0.0000E+00
Elemental I (atoms)	2.2352E+19	5.5507E+22
Organic I (atoms)	3.8799E+19	0.0000E+00
Aerosols (kg)	1.1105E-01	5.0877E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		2.0755E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		2.0758E-06
Total I (Ci)		5.6136E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Leakage Transport
Noble gases (atoms)	5.8546E+24
Elemental I (atoms)	7.8994E+19
Organic I (atoms)	1.3072E+20
Aerosols (kg)	7.0138E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1903E+28
Elemental I (atoms)	0.0000E+00	1.4756E+23
Organic I (atoms)	0.0000E+00	2.4932E+23
Aerosols (kg)	0.0000E+00	1.3892E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1891E+28
Elemental I (atoms)	0.0000E+00	1.4713E+23
Organic I (atoms)	0.0000E+00	2.4863E+23
Aerosols (kg)	0.0000E+00	1.3881E+02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	1.9951E-02	6.2742E-10	6.5145E+15	3.0746E+15
Co-60	3.1686E-02	2.8031E-08	2.8135E+17	4.1431E+15
Kr-85	4.6591E+03	1.1875E-02	8.4134E+22	5.7839E+20
Rb-86	3.0896E-01	3.7972E-09	2.6590E+16	8.1536E+16
Sr-89	2.5185E+01	8.6688E-07	5.8657E+18	4.1654E+18
Sr-90	5.2364E+00	3.8388E-05	2.5686E+20	6.8125E+17
Y-90	5.2640E+00	9.6753E-09	6.4740E+16	5.4492E+17
Y-91	4.2662E-01	1.7396E-08	1.1512E+17	6.7353E+16
Zr-95	4.6629E-01	2.1705E-08	1.3759E+17	7.3210E+16
Nb-95	5.9955E-01	1.5333E-08	9.7195E+16	8.2365E+16
Mo-99	4.6476E-03	9.6902E-12	5.8945E+13	2.3515E+17
Tc-99m	4.7649E-03	9.0618E-13	5.5122E+12	2.2350E+17
Ru-103	4.4430E+00	1.3766E-07	8.0489E+17	7.8938E+17
Ru-106	3.1264E+00	9.3449E-07	5.3091E+18	4.1958E+17
Rh-105	4.3430E-06	5.1454E-15	2.9511E+10	9.6785E+16
Sb-127	4.6967E-02	1.7587E-10	8.3395E+14	3.4897E+17
Te-127	1.2764E+00	4.8366E-10	2.2934E+15	4.8391E+17
Te-127m	1.2074E+00	1.2800E-07	6.0695E+17	1.7286E+17
Te-129	2.1199E+00	1.0123E-10	4.7257E+14	3.9307E+17
Te-129m	2.4516E+00	8.1381E-08	3.7991E+17	4.6021E+17
Te-131m	8.2313E-07	1.0323E-15	4.7453E+09	2.0873E+17
Te-132	2.2778E-01	7.5028E-10	3.4230E+15	4.0014E+18
I-131	4.9726E+01	4.0110E-07	1.8439E+18	3.6338E+19
I-132	2.7188E-01	2.6339E-11	1.2017E+14	5.6528E+18
I-133	5.1239E-08	4.5232E-17	2.0481E+08	1.5304E+19
Xe-133	1.0302E+04	5.5036E-05	2.4920E+20	1.9509E+22
Cs-134	1.1321E+02	8.7496E-05	3.9322E+20	1.5172E+19
Cs-136	5.8161E+00	7.9356E-08	3.5139E+17	2.1239E+18
Cs-137	7.3748E+01	8.4786E-04	3.7269E+21	9.7385E+18
Ba-140	1.3159E+01	1.7974E-07	7.7316E+17	4.8308E+18
La-140	1.5285E+01	2.7500E-08	1.1829E+17	4.1023E+18
Ce-141	8.4084E-01	2.9510E-08	1.2604E+17	1.5994E+17
Ce-143	4.0178E-07	6.0501E-16	2.5479E+09	2.3998E+16
Ce-144	1.2299E+00	3.8561E-07	1.6126E+18	1.6664E+17
Pr-143	1.5979E-01	2.3729E-09	9.9929E+15	5.2040E+16
Nd-147	3.8225E-02	4.7251E-10	1.9357E+15	1.6893E+16
Np-239	2.7674E-03	1.1929E-11	3.0058E+13	4.4565E+17
Pu-238	7.3862E-03	4.3145E-07	1.0917E+18	9.5861E+14
Pu-239	4.4159E-04	7.1044E-06	1.7901E+19	5.7266E+13
Pu-240	4.4006E-04	1.9312E-06	4.8458E+18	5.7185E+13
Pu-241	2.6126E-01	2.5362E-06	6.3375E+18	3.4029E+16
Am-241	2.2008E-04	6.4123E-08	1.6023E+17	2.6058E+13
Cm-242	3.2114E-02	9.6897E-09	2.4113E+16	4.4904E+15
Cm-244	4.6746E-03	5.7781E-08	1.4261E+17	6.0858E+14

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	8.4384E+22	0.0000E+00

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Elemental I (atoms)    1.9908E+17  0.0000E+00
Organic I (atoms)      3.4556E+17  0.0000E+00
Aerosols (kg)          9.8911E-04  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.8050E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.8063E-10
Total I (Ci)                                   4.9998E+01

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      5.8546E+24
Elemental I (atoms)      7.8994E+19
Organic I (atoms)        1.3072E+20
Aerosols (kg)            7.0138E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6245E+24
Elemental I (atoms)    1.1295E+20  1.2571E+19
Organic I (atoms)      1.8738E+20  2.0821E+19
Aerosols (kg)          1.1326E-01  2.3333E-03

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      3.8753E+24
Elemental I (atoms)      5.2128E+19
Organic I (atoms)        8.6254E+19
Aerosols (kg)            4.6451E-02

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#####################################################################
                              I-131 Summary
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              Sprayed Drywell      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.5258E+03             0.0000E+00           0.0000E+00
   0.033       2.6557E+05             0.0000E+00           0.0000E+00
   0.167       1.2318E+06             1.3498E+02           8.2296E-01
   0.417       5.4249E+05             4.0930E+02           9.1672E+00
   0.500       5.3661E+05             4.8768E+02           9.2727E+00
   0.667       8.5232E+05             6.9567E+02           9.5503E+00
   0.920       8.8880E+05             1.0690E+03           1.0187E+01
   1.170       9.0005E+05             1.4564E+03           1.1092E+01
   1.420       9.0781E+05             1.8507E+03           1.2284E+01
   1.670       9.1354E+05             2.2454E+03           1.3769E+01
   1.920       9.1800E+05             2.6365E+03           1.5549E+01
   2.000       9.1924E+05             2.7605E+03           1.6181E+01
   2.200       1.1450E+05             2.9079E+03           1.7855E+01
   2.300       7.9886E+04             2.9370E+03           1.8718E+01
   2.600       1.6496E+05             2.9964E+03           2.1365E+01
   2.900       1.6680E+05             3.0322E+03           2.4086E+01
   3.200       1.4869E+05             3.0446E+03           2.6861E+01
   3.500       1.2837E+05             3.0375E+03           2.9674E+01
   3.800       1.1035E+05             3.0148E+03           3.2512E+01
   4.000       1.0005E+05             2.9928E+03           3.4411E+01
   4.300       1.0962E+05             2.9569E+03           3.7267E+01
   4.600       1.1304E+05             2.9222E+03           4.0130E+01
   4.900       1.1420E+05             2.8886E+03           4.2999E+01
   5.200       1.1452E+05             2.8561E+03           4.5874E+01
   5.500       1.1453E+05             2.8246E+03           4.8755E+01
   5.800       1.1443E+05             2.7942E+03           5.1641E+01
   6.100       1.1429E+05             2.7648E+03           5.4532E+01
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6.400	1.1414E+05	2.7363E+03	5.7427E+01
6.700	1.1398E+05	2.7087E+03	6.0327E+01
7.000	1.1382E+05	2.6820E+03	6.3231E+01
7.300	1.1365E+05	2.6561E+03	6.6138E+01
7.600	1.1349E+05	2.6311E+03	6.9048E+01
7.900	1.1333E+05	2.6069E+03	7.1962E+01
8.000	1.1327E+05	2.5990E+03	7.2934E+01
8.300	1.1311E+05	2.5758E+03	7.5851E+01
8.600	1.1295E+05	2.5533E+03	7.8771E+01
8.900	1.1278E+05	2.5315E+03	8.1693E+01
9.200	1.1262E+05	2.5103E+03	8.4618E+01
9.500	1.1246E+05	2.4899E+03	8.7544E+01
9.800	1.1230E+05	2.4700E+03	9.0471E+01
10.100	1.1214E+05	2.4508E+03	9.3400E+01
10.400	1.1198E+05	2.4322E+03	9.6330E+01
16.000	1.0901E+05	2.1691E+03	1.5098E+02
24.000	1.0490E+05	1.9611E+03	2.2798E+02
48.000	9.4870E+04	9.0138E+02	3.7397E+02
96.000	7.7540E+04	6.9079E+02	5.6381E+02
720.000	5.5831E+03	4.9726E+01	1.3407E+03

Time (hr)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	1.6670E+00
0.033	0.0000E+00	5.7769E+03
0.167	1.3125E-03	1.2579E+05
0.417	1.0567E-02	2.5195E+05
0.500	7.2171E-03	2.6795E+05
0.667	3.3581E-03	3.3544E+05
0.920	2.2231E-03	4.3317E+05
1.170	1.4802E-03	4.9590E+05
1.420	9.8615E-04	5.3630E+05
1.670	6.5771E-04	5.6248E+05
1.920	4.3947E-04	5.7965E+05
2.000	3.8650E-04	5.8382E+05
2.200	2.7981E-04	4.5885E+05
2.300	2.3818E-04	3.8671E+05
2.600	1.4725E-04	2.5337E+05
2.900	9.1520E-05	1.8941E+05
3.200	5.7361E-05	1.5087E+05
3.500	3.6427E-05	1.2377E+05
3.800	2.3598E-05	1.0318E+05
4.000	1.7942E-05	9.1986E+04
4.300	1.2268E-05	8.2135E+04
4.600	8.7915E-06	7.8440E+04
4.900	6.6620E-06	7.7010E+04
5.200	5.3585E-06	7.6415E+04
5.500	4.5615E-06	7.6127E+04
5.800	4.0750E-06	7.5952E+04
6.100	3.7788E-06	7.5818E+04
6.400	3.5991E-06	7.5701E+04
6.700	3.4908E-06	7.5589E+04
7.000	3.4261E-06	7.5479E+04
7.300	3.3880E-06	7.5370E+04
7.600	3.3662E-06	7.5262E+04
7.900	3.3541E-06	7.5154E+04
8.000	3.3515E-06	7.5117E+04
8.300	2.9194E-06	7.5010E+04
8.600	2.6551E-06	7.4902E+04
8.900	2.4936E-06	7.4794E+04
9.200	2.3952E-06	7.4687E+04
9.500	2.3353E-06	7.4579E+04
9.800	2.2991E-06	7.4472E+04
10.100	2.2772E-06	7.4365E+04
10.400	2.2642E-06	7.4258E+04
16.000	2.2395E-06	7.2290E+04
24.000	2.1915E-06	6.9566E+04

48.000	4.4355E-07	6.2914E+04
96.000	3.4053E-07	5.1421E+04
720.000	6.9908E-09	3.7025E+03

```
#################################################################
                        Cumulative Dose Summary
#################################################################
```

Time (hr)	Exclusion Area Bounda Thyroid (rem)	TEDE (rem)	Low Population Zone Thyroid (rem)	TEDE (rem)	Control Room Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.1106E-01	5.5443E-03	1.1637E-02	5.8093E-04	4.3901E-02	1.9580E-03
0.417	1.2344E+00	6.1715E-02	1.2934E-01	6.4665E-03	1.2288E+00	5.4803E-02
0.500	1.2393E+00	6.2274E-02	1.3022E-01	6.5658E-03	1.8415E+00	8.2134E-02
0.667	1.2403E+00	6.2414E-02	1.3145E-01	6.7377E-03	2.5470E+00	1.1360E-01
0.920	1.2427E+00	6.2910E-02	1.3429E-01	7.3488E-03	3.1301E+00	1.3961E-01
1.170	1.2459E+00	6.3929E-02	1.3834E-01	8.6036E-03	3.5109E+00	1.5660E-01
1.420	1.2503E+00	6.5642E-02	1.4369E-01	1.0713E-02	3.7637E+00	1.6791E-01
1.670	1.2557E+00	6.8176E-02	1.5034E-01	1.3834E-02	3.9317E+00	1.7545E-01
1.920	1.2622E+00	7.1625E-02	1.5831E-01	1.8080E-02	4.0435E+00	1.8050E-01
2.000	1.2644E+00	7.2933E-02	1.6113E-01	1.9691E-02	4.0708E+00	1.8174E-01
2.200	1.2705E+00	7.6666E-02	1.6435E-01	2.1669E-02	4.1253E+00	1.8424E-01
2.300	1.2737E+00	7.8741E-02	1.6601E-01	2.2767E-02	4.1466E+00	1.8522E-01
2.600	1.2832E+00	8.5680E-02	1.7108E-01	2.6443E-02	4.1933E+00	1.8740E-01
2.900	1.2930E+00	9.3528E-02	1.7627E-01	3.0600E-02	4.2221E+00	1.8879E-01
3.200	1.3030E+00	1.0210E-01	1.8154E-01	3.5140E-02	4.2401E+00	1.8970E-01
3.500	1.3130E+00	1.1124E-01	1.8687E-01	3.9981E-02	4.2513E+00	1.9032E-01
3.800	1.3232E+00	1.2081E-01	1.9223E-01	4.5050E-02	4.2585E+00	1.9077E-01
4.000	1.3299E+00	1.2738E-01	1.9580E-01	4.8528E-02	4.2619E+00	1.9101E-01
4.300	1.3400E+00	1.3743E-01	2.0116E-01	5.3854E-02	4.2655E+00	1.9131E-01
4.600	1.3501E+00	1.4766E-01	2.0651E-01	5.9273E-02	4.2680E+00	1.9156E-01
4.900	1.3602E+00	1.5800E-01	2.1186E-01	6.4747E-02	4.2699E+00	1.9179E-01
5.200	1.3703E+00	1.6838E-01	2.1720E-01	7.0248E-02	4.2713E+00	1.9200E-01
5.500	1.3804E+00	1.7877E-01	2.2253E-01	7.5748E-02	4.2725E+00	1.9220E-01
5.800	1.3904E+00	1.8911E-01	2.2785E-01	8.1228E-02	4.2736E+00	1.9240E-01
6.100	1.4004E+00	1.9938E-01	2.3317E-01	8.6669E-02	4.2745E+00	1.9259E-01
6.400	1.4105E+00	2.0956E-01	2.3847E-01	9.2057E-02	4.2754E+00	1.9278E-01
6.700	1.4205E+00	2.1961E-01	2.4377E-01	9.7382E-02	4.2763E+00	1.9297E-01
7.000	1.4305E+00	2.2952E-01	2.4906E-01	1.0263E-01	4.2771E+00	1.9316E-01
7.300	1.4404E+00	2.3928E-01	2.5434E-01	1.0780E-01	4.2779E+00	1.9334E-01
7.600	1.4504E+00	2.4888E-01	2.5961E-01	1.1289E-01	4.2787E+00	1.9352E-01
7.900	1.4603E+00	2.5831E-01	2.6487E-01	1.1788E-01	4.2795E+00	1.9370E-01
8.000	1.4636E+00	2.6141E-01	2.6662E-01	1.1952E-01	4.2798E+00	1.9376E-01
8.300	1.4735E+00	2.7060E-01	2.6839E-01	1.2263E-01	4.2805E+00	1.9392E-01
8.600	1.4834E+00	2.7961E-01	2.7016E-01	1.2567E-01	4.2812E+00	1.9406E-01
8.900	1.4933E+00	2.8843E-01	2.7192E-01	1.2866E-01	4.2818E+00	1.9419E-01
9.200	1.5031E+00	2.9708E-01	2.7368E-01	1.3157E-01	4.2824E+00	1.9431E-01
9.500	1.5130E+00	3.0554E-01	2.7544E-01	1.3443E-01	4.2829E+00	1.9443E-01
9.800	1.5228E+00	3.1382E-01	2.7719E-01	1.3722E-01	4.2835E+00	1.9454E-01
10.100	1.5326E+00	3.2192E-01	2.7893E-01	1.3996E-01	4.2840E+00	1.9465E-01
10.400	1.5423E+00	3.2985E-01	2.8068E-01	1.4263E-01	4.2845E+00	1.9475E-01
16.000	1.7210E+00	4.5364E-01	3.1259E-01	1.8417E-01	4.2941E+00	1.9646E-01
24.000	1.9628E+00	5.7587E-01	3.5576E-01	2.2470E-01	4.3071E+00	1.9828E-01
48.000	2.3935E+00	7.3332E-01	3.9519E-01	2.4567E-01	4.3134E+00	1.9899E-01
96.000	2.9115E+00	8.8637E-01	4.4261E-01	2.6576E-01	4.3203E+00	1.9969E-01
720.000	4.9461E+00	1.3964E+00	4.9280E-01	2.8282E-01	4.3256E+00	2.0029E-01

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	1.6630E-02	1.2644E+00	7.2933E-02

Attachment 12.2b - RADTRAD Output File "DRE3ES395_West.o0" (Westinghouse Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:17:07
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3ES395_West.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Release file         = c:\program files (x86)\radtrad3.03\Defaults\bwr_i.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\Defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3 ESF Leakage - Core Burnup = 39 GWD/MTU, ESF Leakage = 2 gpm, Flashing Factor
10%, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 395 cfm for >0.6667 hrs, and CREV
Initiation @ 40 Minutes
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   4
 Compartment 1:
 Suppression Pool
   3
  1.1000E+05
   0
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
Suppression Pool to Reactor Building
  1
  2
  2
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\Defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\Defaults\bwr_i.rft
  0.0000E+00
  1
  0.0000E+00   9.7000E-01   3.0000E-02   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  4
Compartment 1:
  0
  1
  0
  0
  0
  0
  0
  0
  0
```

```
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
  0
  0
  0
  0
  0
  1
  3
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.6740E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
```

```
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
  8.0000E+00   2.3400E-06
  2.4000E+01   9.3900E-07
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
  8
```

```
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\Benchmark\DRE3ES395_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:17:07
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   4

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Suppression Pool
Compartment volume =   1.1000E+05 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  1
   Exit Pathway Number    1: Suppression Pool to Reactor Building

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Suppression Pool to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
   Exit Pathway Number    5: Control Room Exhaust to Environment
```

```
Total number of pathways =   5
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:17:07
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
             0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
IODINE       5.0000E-02     2.5000E-01      0.0000E+00        2.603E+02
CESIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
TELLURIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
STRONTIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
BARIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
RUTHENIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
CERIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
LANTHANUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 I-131     2   2.702E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.912E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.537E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.101E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.172E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10

Nuclide    Daughter  Fraction   Daughter  Fraction   Daughter  Fraction
 Kr-85m    Kr-85      0.21       none       0.00       none       0.00
 Kr-87     Rb-87      1.00       none       0.00       none       0.00
 Kr-88     Rb-88      1.00       none       0.00       none       0.00
 Sr-90     Y-90       1.00       none       0.00       none       0.00
 Sr-91     Y-91m      0.58       Y-91       0.42       none       0.00
 Sr-92     Y-92       1.00       none       0.00       none       0.00
 Y-93      Zr-93      1.00       none       0.00       none       0.00
 Zr-95     Nb-95m     0.01       Nb-95      0.99       none       0.00
 Zr-97     Nb-97m     0.95       Nb-97      0.05       none       0.00
 Mo-99     Tc-99m     0.88       Tc-99      0.12       none       0.00
 Tc-99m    Tc-99      1.00       none       0.00       none       0.00
 Ru-103    Rh-103m    1.00       none       0.00       none       0.00
 Ru-105    Rh-105     1.00       none       0.00       none       0.00
 Ru-106    Rh-106     1.00       none       0.00       none       0.00
 Sb-127    Te-127m    0.18       Te-127     0.82       none       0.00
 Sb-129    Te-129m    0.22       Te-129     0.77       none       0.00
 Te-127m   Te-127     0.98       none       0.00       none       0.00
 Te-129    I-129      1.00       none       0.00       none       0.00
 Te-129m   Te-129     0.65       I-129      0.35       none       0.00
 Te-131m   Te-131     0.22       I-131      0.78       none       0.00
 Te-132    I-132      1.00       none       0.00       none       0.00
 I-131     Xe-131m    0.01       none       0.00       none       0.00
 I-133     Xe-133m    0.03       Xe-133     0.97       none       0.00
 I-135     Xe-135m    0.15       Xe-135     0.85       none       0.00
 Xe-135    Cs-135     1.00       none       0.00       none       0.00
 Cs-137    Ba-137m    0.95       none       0.00       none       0.00
 Ba-140    La-140     1.00       none       0.00       none       0.00
 La-141    Ce-141     1.00       none       0.00       none       0.00
 Ce-143    Pr-143     1.00       none       0.00       none       0.00
 Ce-144    Pr-144m    0.02       Pr-144     0.98       none       0.00
```

Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 0.0000E+00
Elemental = 9.7000E-01
Organic = 3.0000E-02

COMPARTMENT DATA

Compartment number 1: Suppression Pool

Compartment number 2: Reactor Building

Compartment number 3: Environment

Compartment number 4: Control Room

PATHWAY DATA

Pathway number 1: Suppression Pool to Reactor Building

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: Reactor Building to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
4.1700E-01	8.7400E-05
5.0000E-01	6.7400E-06
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
4.1700E-01	1.5500E-05
5.0000E-01	8.3000E-06
2.0000E+00	3.5700E-06
8.0000E+00	2.3400E-06
2.4000E+01	9.3900E-07
9.6000E+01	2.5300E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

```
     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:17:07
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.3311E-05  2.1730E-02  7.7916E-04
Accumulated dose (rem)  9.3311E-05  2.1730E-02  7.7916E-04

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.7772E-06  2.2769E-03  8.1641E-05
Accumulated dose (rem)  9.7772E-06  2.2769E-03  8.1641E-05

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1238E-06  1.8851E-02  5.9805E-04
Accumulated dose (rem)  3.1238E-06  1.8851E-02  5.9805E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
I-131                  1.0091E+01  8.1392E-08  3.7416E+17  1.9214E+14
I-132                  1.3438E+01  1.3018E-09  5.9392E+15  2.6136E+14
I-133                  2.0422E+01  1.8028E-08  8.1628E+16  3.9007E+14
I-134                  1.6408E+01  6.1509E-10  2.7643E+15  3.3981E+14
I-135                  1.8515E+01  5.2722E-09  2.3518E+16  3.5630E+14
Xe-133                 3.0837E-02  1.6474E-10  7.4594E+14  4.2900E+11
Xe-135                 3.3942E-01  1.3291E-10  5.9291E+14  4.7502E+12

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    1.3388E+15  0.0000E+00
Elemental I (atoms)    4.7337E+17  0.0000E+00
Organic I (atoms)      1.4640E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.2165E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.8023E-10
Total I (Ci)                                   7.8874E+01

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7888E+14
Elemental I (atoms)    0.0000E+00  4.8254E+17
Organic I (atoms)      0.0000E+00  1.4924E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6071E+13
Elemental I (atoms)    0.0000E+00  7.6774E+15
Organic I (atoms)      0.0000E+00  2.3744E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2585E-06  5.5033E-04  1.9616E-05
Accumulated dose (rem)  9.5570E-05  2.2280E-02  7.9878E-04
```

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.0054E-07	9.7598E-05	3.4788E-06
Accumulated dose (rem)	1.0178E-05	2.3744E-03	8.5120E-05

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8487E-06	1.1677E-02	3.7012E-04
Accumulated dose (rem)	4.9726E-06	3.0528E-02	9.6817E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
I-131	1.4484E+01	1.1683E-07	5.3708E+17	3.3014E+14
I-132	1.8977E+01	1.8384E-09	8.3874E+15	4.4365E+14
I-133	2.9242E+01	2.5813E-08	1.1688E+17	6.6900E+14
I-134	2.2063E+01	8.2707E-10	3.7169E+15	5.5663E+14
I-135	2.6354E+01	7.5044E-09	3.3476E+16	6.0840E+14
Xe-133	5.2864E-02	2.8242E-10	1.2788E+15	8.8440E+11
Xe-135	5.7845E-01	2.2651E-10	1.0104E+15	9.7468E+12

Reactor Building Transport Group Inventory:

Time (h) = 0.5000	Atmosphere	Sump
Noble gases (atoms)	2.2892E+15	0.0000E+00
Elemental I (atoms)	6.7856E+17	0.0000E+00
Organic I (atoms)	2.0986E+16	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		3.1783E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.0107E-10
Total I (Ci)		1.1112E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1670E+15
Elemental I (atoms)	0.0000E+00	6.9435E+17
Organic I (atoms)	0.0000E+00	2.1475E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3196E+13
Elemental I (atoms)	5.0227E+15	8.2354E+15
Organic I (atoms)	1.5534E+14	2.5470E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5285E-07	1.4036E-04	4.9772E-06
Accumulated dose (rem)	9.6122E-05	2.2420E-02	8.0375E-04

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8080E-07	1.7285E-04	6.1292E-06
Accumulated dose (rem)	1.0859E-05	2.5473E-03	9.1249E-05

Control Room Doses:

Time (h) = 0.6667 Whole Body Thyroid TEDE

```
Delta dose (rem)        2.0468E-06  1.3482E-02  4.2701E-04
Accumulated dose (rem)  7.0194E-06  4.4010E-02  1.3952E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
I-131                  2.6713E+01  2.1547E-07  9.9052E+17  7.8587E+14
I-132                  3.4017E+01  3.2955E-09  1.5035E+16  1.0316E+15
I-133                  5.3660E+01  4.7369E-08  2.1448E+17  1.5865E+15
I-134                  3.5686E+01  1.3377E-09  6.0119E+15  1.2030E+15
I-135                  4.7789E+01  1.3608E-08  6.0702E+16  1.4299E+15
Xe-133                 1.2521E-01  6.6894E-10  3.0289E+15  2.7811E+12
Xe-135                 1.3539E+00  5.3018E-10  2.3651E+15  3.0361E+13

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    5.3940E+15  0.0000E+00
Elemental I (atoms)    1.2481E+18  0.0000E+00
Organic I (atoms)      3.8602E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.8491E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.3559E-10
Total I (Ci)                                   1.9786E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7772E+15
Elemental I (atoms)    0.0000E+00  1.2857E+18
Organic I (atoms)      0.0000E+00  3.9764E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0446E+14
Elemental I (atoms)    2.1627E+16  1.0080E+16
Organic I (atoms)      6.6888E+14  3.1176E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3686E-05  7.6528E-03  2.6411E-04
Accumulated dose (rem)  1.1981E-04  3.0073E-02  1.0679E-03

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9168E-05  9.4241E-03  3.2524E-04
Accumulated dose (rem)  4.0027E-05  1.1971E-02  4.1649E-04

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.8353E-06  2.9835E-02  9.4212E-04
Accumulated dose (rem)  1.0855E-05  7.3845E-02  2.3373E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg         Atoms      Decay
I-131                  3.0218E+02  2.4374E-06  1.1205E+19  2.5665E+16
I-132                  3.0538E+02  2.9585E-08  1.3497E+17  2.8324E+16
I-133                  5.8330E+02  5.1491E-07  2.3315E+18  5.0259E+16
I-134                  1.4132E+02  5.2975E-09  2.3807E+16  1.8348E+16
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I-135                  4.7221E+02  1.3446E-07  5.9981E+17  4.2133E+16
Xe-133                 3.9235E+00  2.0961E-08  9.4908E+16  2.5328E+14
Xe-135                 3.8579E+01  1.5107E-08  6.7390E+16  2.5612E+15

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    1.6230E+17  0.0000E+00
Elemental I (atoms)    1.3866E+19  0.0000E+00
Organic I (atoms)      4.2885E+17  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.5120E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.0171E-09
Total I (Ci)                                   1.8044E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.9841E+16
Elemental I (atoms)    0.0000E+00  1.5062E+19
Organic I (atoms)      0.0000E+00  4.6582E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.2923E+15
Elemental I (atoms)    9.2526E+17  1.1048E+17
Organic I (atoms)      2.8616E+16  3.4170E+15
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1434E-04  4.8264E-02  1.6247E-03
Accumulated dose (rem)  2.3414E-04  7.8337E-02  2.6926E-03

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0561E-05  2.5564E-02  8.6057E-04
Accumulated dose (rem)  1.0059E-04  3.7536E-02  1.2771E-03

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.8923E-07  6.7455E-03  2.1186E-04
Accumulated dose (rem)  1.1544E-05  8.0591E-02  2.5492E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   4.0000       Ci           kg         Atoms      Decay
I-131                  8.6413E+02  6.9702E-06  3.2042E+19  1.8791E+17
I-132                  5.1646E+02  5.0034E-08  2.2827E+17  1.5263E+17
I-133                  1.5716E+03  1.3874E-06  6.2818E+18  3.5291E+17
I-134                  8.3722E+01  3.1384E-09  1.4104E+16  5.2131E+16
I-135                  1.1027E+03  3.1399E-07  1.4007E+18  2.6809E+17
Xe-133                 2.6375E+01  1.4091E-07  6.3802E+17  3.8581E+15
Xe-135                 2.2540E+02  8.8263E-08  3.9373E+17  3.5000E+16

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    1.0317E+18  0.0000E+00
Elemental I (atoms)    3.8768E+19  0.0000E+00
Organic I (atoms)      1.1990E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
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Dose Effective (Ci/cc) I-131 (Thyroid)         1.8219E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.1911E-08
Total I (Ci)                                   4.1386E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3418E+17
Elemental I (atoms)    0.0000E+00  4.7113E+19
Organic I (atoms)      0.0000E+00  1.4571E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3377E+17
Elemental I (atoms)    6.6181E+18  7.4302E+17
Organic I (atoms)      2.0468E+17  2.2980E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.5955E-04  2.0225E-01  6.6570E-03
Accumulated dose (rem)  5.9369E-04  2.8059E-01  9.3496E-03

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9044E-04  1.0713E-01  3.5260E-03
Accumulated dose (rem)  2.9103E-04  1.4466E-01  4.8031E-03

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7166E-06  1.4699E-02  4.5939E-04
Accumulated dose (rem)  1.3261E-05  9.5290E-02  3.0086E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
I-131                  1.6393E+03  1.3223E-05  6.0786E+19  8.7757E+17
I-132                  3.0289E+02  2.9344E-08  1.3387E+17  3.8196E+17
I-133                  2.6470E+03  2.3367E-06  1.0580E+19  1.5285E+18
I-134                  6.8175E+00  2.5556E-10  1.1485E+15  6.9641E+16
I-135                  1.3951E+03  3.9724E-07  1.7720E+18  9.7722E+17
Xe-133                 1.0849E+02  5.7962E-07  2.6245E+18  3.8308E+16
Xe-135                 6.9799E+02  2.7332E-07  1.2193E+18  2.8359E+17

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    3.8437E+18  0.0000E+00
Elemental I (atoms)    7.1075E+19  0.0000E+00
Organic I (atoms)      2.1982E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.3307E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.8829E-08
Total I (Ci)                                   5.9911E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.0964E+18
Elemental I (atoms)    0.0000E+00  1.0869E+20
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Organic I (atoms)      0.0000E+00  3.3616E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2441E+18
Elemental I (atoms)    3.0500E+19  3.3966E+18
Organic I (atoms)      9.4331E+17  1.0505E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.4058E-04  6.2258E-01  2.0119E-02
Accumulated dose (rem)  1.4343E-03  9.0316E-01  2.9469E-02

Low Population Zone Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9183E-04  1.1116E-01  3.7340E-03
Accumulated dose (rem)  5.8286E-04  2.5582E-01  8.5371E-03

Control Room Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.0700E-06  3.3269E-02  1.0343E-03
Accumulated dose (rem)  1.7331E-05  1.2856E-01  4.0429E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  16.0000       Ci           kg         Atoms      Decay
I-131                  2.3705E+03  1.9121E-05  8.7901E+19  3.1011E+18
I-132                  4.0692E+01  3.9422E-09  1.7985E+16  5.2826E+17
I-133                  3.0175E+03  2.6637E-06  1.2061E+19  4.7010E+18
I-134                  1.8166E-02  6.8096E-13  3.0603E+12  7.0911E+16
I-135                  8.9728E+02  2.5550E-07  1.1397E+18  2.2423E+18
Xe-133                 2.9858E+02  1.5952E-06  7.2227E+18  2.5474E+17
Xe-135                 1.0941E+03  4.2845E-07  1.9112E+18  1.3011E+18

Reactor Building Transport Group Inventory:
Time (h) =  16.0000    Atmosphere     Sump
Noble gases (atoms)    9.1340E+18  0.0000E+00
Elemental I (atoms)    9.8086E+19  0.0000E+00
Organic I (atoms)      3.0336E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.5501E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1061E-08
Total I (Ci)                                   6.3260E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1627E+19
Elemental I (atoms)    0.0000E+00  2.2452E+20
Organic I (atoms)      0.0000E+00  6.9439E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.4036E+18
Elemental I (atoms)    1.0449E+20  1.1618E+19
Organic I (atoms)      3.2317E+18  3.5931E+17
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Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5089E-04  7.2096E-01  2.2980E-02
Accumulated dose (rem)  2.1852E-03  1.6241E+00  5.2449E-02

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6069E-04  1.2873E-01  4.2297E-03
Accumulated dose (rem)  8.4356E-04  3.8455E-01  1.2767E-02

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1826E-06  3.8252E-02  1.1836E-03
Accumulated dose (rem)  2.1513E-05  1.6681E-01  5.2265E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
I-131                  2.5988E+03  2.0962E-05  9.6364E+19  5.7944E+18
I-132                  4.1253E+00  3.9966E-10  1.8233E+15  5.4562E+17
I-133                  2.6078E+03  2.3020E-06  1.0423E+19  7.7472E+18
I-134                  3.6695E-05  1.3756E-15  6.1819E+09  7.0914E+16
I-135                  4.3752E+02  1.2458E-07  5.5574E+17  2.9372E+18
Xe-133                 4.4737E+02  2.3901E-06  1.0822E+19  6.5154E+17
Xe-135                 9.3539E+02  3.6629E-07  1.6339E+18  2.3938E+18

Reactor Building Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    1.2456E+19  0.0000E+00
Elemental I (atoms)    1.0412E+20  0.0000E+00
Organic I (atoms)      3.2203E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.7800E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.2303E-08
Total I (Ci)                                   5.6482E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3046E+19
Elemental I (atoms)    0.0000E+00  3.3297E+20
Organic I (atoms)      0.0000E+00  1.0298E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7556E+19
Elemental I (atoms)    1.9103E+20  2.1234E+19
Organic I (atoms)      5.9083E+18  6.5671E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3621E-03  2.1076E+00  6.6031E-02
Accumulated dose (rem)  3.5472E-03  3.7317E+00  1.1848E-01

Low Population Zone Doses:
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Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8976E-04  1.9295E-01  6.1103E-03
Accumulated dose (rem)  1.0333E-03  5.7751E-01  1.8877E-02

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0053E-06  2.9553E-02  9.0891E-04
Accumulated dose (rem)  2.3518E-05  1.9636E-01  6.1354E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  48.0000       Ci           kg         Atoms      Decay
I-131                  2.5471E+03  2.0545E-05  9.4446E+19  1.4148E+19
I-132                  3.1864E-03  3.0869E-13  1.4083E+12  5.4749E+17
I-133                  1.2521E+03  1.1053E-06  5.0047E+18  1.3750E+19
I-135                  3.7732E+01  1.0744E-08  4.7928E+16  3.4674E+18
Xe-133                 6.4765E+02  3.4600E-06  1.5667E+19  2.4628E+18
Xe-135                 2.4796E+02  9.7096E-08  4.3313E+17  4.1284E+18

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.6100E+19  0.0000E+00
Elemental I (atoms)    9.6514E+19  0.0000E+00
Organic I (atoms)      2.9850E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.3265E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.5280E-08
Total I (Ci)                                   3.8369E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.5383E+19
Elemental I (atoms)    0.0000E+00  6.2601E+20
Organic I (atoms)      0.0000E+00  1.9361E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8977E+19
Elemental I (atoms)    4.4862E+20  4.9855E+19
Organic I (atoms)      1.3875E+19  1.5419E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1433E-03  3.5268E+00  1.0883E-01
Accumulated dose (rem)  4.6905E-03  7.2585E+00  2.2731E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5928E-04  3.2288E-01  1.0019E-02
Accumulated dose (rem)  1.1926E-03  9.0039E-01  2.8896E-02

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2043E-06  4.7433E-02  1.4496E-03
Accumulated dose (rem)  2.4723E-05  2.4380E-01  7.5850E-03

Reactor Building Compartment Nuclide Inventory:
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Time (h) = 96.0000	Ci	kg	Atoms	Decay
I-131	2.1509E+03	1.7349E-05	7.9757E+19	2.9152E+19
I-132	1.6688E-09	1.6167E-19	7.3759E+05	5.4749E+17
I-133	2.5376E+02	2.2401E-07	1.0143E+18	1.7755E+19
I-135	2.4670E-01	7.0249E-11	3.1337E+14	3.5151E+18
Xe-133	6.3576E+02	3.3965E-06	1.5379E+19	6.6892E+18
Xe-135	8.1135E+00	3.1771E-09	1.4173E+16	4.5890E+18

Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5393E+19	0.0000E+00	
Elemental I (atoms)	7.8348E+19	0.0000E+00	
Organic I (atoms)	2.4231E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.4422E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.4824E-08
Total I (Ci)			2.4049E+03

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5648E+20
Elemental I (atoms)	0.0000E+00	1.1165E+21
Organic I (atoms)	0.0000E+00	3.4531E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5002E+20
Elemental I (atoms)	8.8977E+20	9.8871E+19
Organic I (atoms)	2.7519E+19	3.0579E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4597E-03	1.6022E+01	4.9135E-01
Accumulated dose (rem)	8.1502E-03	2.3281E+01	7.1866E-01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2987E-04	3.9523E-01	1.2165E-02
Accumulated dose (rem)	1.3225E-03	1.2956E+00	4.1060E-02

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.8406E-07	4.1284E-02	1.2577E-03
Accumulated dose (rem)	2.5307E-05	2.8508E-01	8.8427E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
I-131	2.2657E+02	1.8275E-06	8.4012E+18	1.0022E+20
I-133	2.3419E-07	2.0674E-16	9.3608E+08	1.8769E+19
Xe-133	2.1841E+01	1.1668E-07	5.2832E+17	2.2482E+19

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	5.2832E+17	0.0000E+00
Elemental I (atoms)	8.1491E+18	0.0000E+00
Organic I (atoms)	2.5204E+17	0.0000E+00

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Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.5560E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5560E-09
Total I (Ci)                                   2.2657E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9390E+20
Elemental I (atoms)    0.0000E+00  3.3755E+21
Organic I (atoms)      0.0000E+00  1.0440E+20
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.8748E+20
Elemental I (atoms)    2.9231E+21  3.2480E+20
Organic I (atoms)      9.0405E+19  1.0045E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

   1020

#################################################################
                            I-131 Summary
#################################################################

             Suppression Pool      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.5275E+03             0.0000E+00           0.0000E+00
   0.033       2.7135E+05             0.0000E+00           0.0000E+00
   0.290       2.3610E+06             4.8733E+00           5.4131E-02
   0.417       3.3935E+06             1.0091E+01           1.6334E-01
   0.500       4.0678E+06             1.4484E+01           1.7525E-01
   0.667       6.3247E+06             2.6713E+01           2.1468E-01
   0.920       9.7491E+06             5.5182E+01           3.3346E-01
   1.170       1.3123E+07             9.4648E+01           5.5049E-01
   1.420       1.6491E+07             1.4505E+02           8.9941E-01
   1.670       1.9854E+07             2.0603E+02           1.4118E+00
   1.920       2.3211E+07             2.7727E+02           2.1181E+00
   2.000       2.4284E+07             3.0218E+02           2.3900E+00
   2.400       2.4249E+07             4.2611E+02           4.1012E+00
   2.700       2.4222E+07             5.1507E+02           5.7583E+00
   3.000       2.4196E+07             6.0076E+02           7.7228E+00
   3.300       2.4170E+07             6.8327E+02           9.9832E+00
   3.600       2.4144E+07             7.6274E+02           1.2529E+01
   3.900       2.4118E+07             8.3926E+02           1.5348E+01
   4.000       2.4109E+07             8.6413E+02           1.6348E+01
   4.300       2.4083E+07             9.3689E+02           1.9518E+01
   4.600       2.4057E+07             1.0069E+03           2.2939E+01
   4.900       2.4031E+07             1.0744E+03           2.6602E+01
   5.200       2.4005E+07             1.1393E+03           3.0498E+01
   5.500       2.3979E+07             1.2018E+03           3.4619E+01
   5.800       2.3953E+07             1.2620E+03           3.8955E+01
   6.100       2.3927E+07             1.3199E+03           4.3499E+01
   6.400       2.3901E+07             1.3757E+03           4.8243E+01
   6.700       2.3876E+07             1.4293E+03           5.3179E+01
   7.000       2.3850E+07             1.4809E+03           5.8301E+01
   7.300       2.3824E+07             1.5306E+03           6.3601E+01
   7.600       2.3798E+07             1.5784E+03           6.9072E+01
   7.900       2.3772E+07             1.6244E+03           7.4709E+01
   8.000       2.3764E+07             1.6393E+03           7.6623E+01
   8.300       2.3738E+07             1.6829E+03           8.2470E+01
   8.600       2.3712E+07             1.7249E+03           8.8467E+01
   8.900       2.3687E+07             1.7653E+03           9.4609E+01
```

9.200	2.3661E+07	1.8042E+03	1.0089E+02
9.500	2.3636E+07	1.8415E+03	1.0731E+02
9.800	2.3610E+07	1.8774E+03	1.1385E+02
10.100	2.3585E+07	1.9119E+03	1.2052E+02
10.400	2.3559E+07	1.9451E+03	1.2731E+02
16.000	2.3088E+07	2.3705E+03	2.7070E+02
24.000	2.2431E+07	2.5988E+03	5.0580E+02
48.000	2.0571E+07	2.5471E+03	1.2393E+03
96.000	1.7301E+07	2.1509E+03	2.5585E+03
720.000	1.8224E+06	2.2657E+02	8.8075E+03

Time (hr)	Control Room I-131 (Curies)
0.000	0.0000E+00
0.033	0.0000E+00
0.290	7.5986E-05
0.417	2.0367E-04
0.500	1.3927E-04
0.667	6.5266E-05
0.920	4.3320E-05
1.170	2.9052E-05
1.420	1.9694E-05
1.670	1.3637E-05
1.920	9.8075E-06
2.000	8.9281E-06
2.400	5.3688E-06
2.700	4.0318E-06
3.000	3.3476E-06
3.300	3.0587E-06
3.600	3.0075E-06
3.900	3.0974E-06
4.000	3.1477E-06
4.300	3.3381E-06
4.600	3.5659E-06
4.900	3.8125E-06
5.200	4.0667E-06
5.500	4.3216E-06
5.800	4.5734E-06
6.100	4.8196E-06
6.400	5.0590E-06
6.700	5.2908E-06
7.000	5.5149E-06
7.300	5.7310E-06
7.600	5.9394E-06
7.900	6.1401E-06
8.000	6.2053E-06
8.300	5.5387E-06
8.600	5.1744E-06
8.900	4.9938E-06
9.200	4.9242E-06
9.500	4.9212E-06
9.800	4.9574E-06
10.100	5.0163E-06
10.400	5.0876E-06
16.000	6.2970E-06
24.000	6.9785E-06
48.000	2.8760E-06
96.000	2.4294E-06
720.000	7.2979E-08

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)

0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.290	7.2101E-03	2.5971E-04	7.5548E-04	2.7213E-05	4.7194E-03	1.4983E-04
0.417	2.1730E-02	7.7916E-04	2.2769E-03	8.1641E-05	1.8851E-02	5.9805E-04
0.500	2.2280E-02	7.9878E-04	2.3744E-03	8.5120E-05	3.0528E-02	9.6817E-04
0.667	2.2420E-02	8.0375E-04	2.5473E-03	9.1249E-05	4.4010E-02	1.3952E-03
0.920	2.2842E-02	8.1859E-04	3.0665E-03	1.0952E-04	5.5219E-02	1.7497E-03
1.170	2.3610E-02	8.4541E-04	4.0123E-03	1.4255E-04	6.2571E-02	1.9819E-03
1.420	2.4841E-02	8.8812E-04	5.5284E-03	1.9514E-04	6.7508E-02	2.1377E-03
1.670	2.6644E-02	9.5028E-04	7.7480E-03	2.7170E-04	7.0874E-02	2.2438E-03
1.920	2.9121E-02	1.0353E-03	1.0799E-02	3.7639E-04	7.3236E-02	2.3181E-03
2.000	3.0073E-02	1.0679E-03	1.1971E-02	4.1649E-04	7.3845E-02	2.3373E-03
2.400	3.6053E-02	1.2717E-03	1.5139E-02	5.2447E-04	7.6104E-02	2.4083E-03
2.700	4.1821E-02	1.4673E-03	1.8194E-02	6.2807E-04	7.7232E-02	2.4438E-03
3.000	4.8636E-02	1.6974E-03	2.1803E-02	7.4995E-04	7.8116E-02	2.4715E-03
3.300	5.6451E-02	1.9603E-03	2.5943E-02	8.8921E-04	7.8884E-02	2.4956E-03
3.600	6.5224E-02	2.2544E-03	3.0590E-02	1.0450E-03	7.9611E-02	2.5184E-03
3.900	7.4912E-02	2.5783E-03	3.5721E-02	1.2165E-03	8.0342E-02	2.5414E-03
4.000	7.8337E-02	2.6926E-03	3.7536E-02	1.2771E-03	8.0591E-02	2.5492E-03
4.300	8.9183E-02	3.0539E-03	4.3280E-02	1.4684E-03	8.1365E-02	2.5734E-03
4.600	1.0085E-01	3.4417E-03	4.9462E-02	1.6738E-03	8.2187E-02	2.5992E-03
4.900	1.1331E-01	3.8548E-03	5.6060E-02	1.8926E-03	8.3063E-02	2.6266E-03
5.200	1.2652E-01	4.2920E-03	6.3058E-02	2.1242E-03	8.3996E-02	2.6558E-03
5.500	1.4045E-01	4.7522E-03	7.0437E-02	2.3680E-03	8.4987E-02	2.6868E-03
5.800	1.5507E-01	5.2343E-03	7.8180E-02	2.6234E-03	8.6034E-02	2.7195E-03
6.100	1.7035E-01	5.7374E-03	8.6272E-02	2.8898E-03	8.7137E-02	2.7540E-03
6.400	1.8625E-01	6.2603E-03	9.4696E-02	3.1668E-03	8.8294E-02	2.7902E-03
6.700	2.0276E-01	6.8023E-03	1.0344E-01	3.4539E-03	8.9502E-02	2.8279E-03
7.000	2.1984E-01	7.3624E-03	1.1249E-01	3.7506E-03	9.0761E-02	2.8672E-03
7.300	2.3747E-01	7.9398E-03	1.2182E-01	4.0564E-03	9.2067E-02	2.9080E-03
7.600	2.5562E-01	8.5336E-03	1.3144E-01	4.3709E-03	9.3420E-02	2.9502E-03
7.900	2.7427E-01	9.1431E-03	1.4131E-01	4.6937E-03	9.4816E-02	2.9938E-03
8.000	2.8059E-01	9.3496E-03	1.4466E-01	4.8031E-03	9.5290E-02	3.0086E-03
8.300	2.9987E-01	9.9788E-03	1.4811E-01	4.9206E-03	9.6636E-02	3.0505E-03
8.600	3.1960E-01	1.0622E-02	1.5163E-01	5.0406E-03	9.7863E-02	3.0888E-03
8.900	3.3975E-01	1.1279E-02	1.5523E-01	5.1630E-03	9.9026E-02	3.1250E-03
9.200	3.6032E-01	1.1948E-02	1.5890E-01	5.2877E-03	1.0016E-01	3.1603E-03
9.500	3.8127E-01	1.2629E-02	1.6264E-01	5.4146E-03	1.0128E-01	3.1953E-03
9.800	4.0259E-01	1.3322E-02	1.6645E-01	5.5436E-03	1.0240E-01	3.2303E-03
10.100	4.2427E-01	1.4026E-02	1.7032E-01	5.6746E-03	1.0354E-01	3.2655E-03
10.400	4.4628E-01	1.4740E-02	1.7425E-01	5.8074E-03	1.0468E-01	3.3011E-03
16.000	9.0316E-01	2.9469E-02	2.5582E-01	8.5371E-03	1.2856E-01	4.0429E-03
24.000	1.6241E+00	5.2449E-02	3.8455E-01	1.2767E-02	1.6681E-01	5.2265E-03
48.000	3.7317E+00	1.1848E-01	5.7751E-01	1.8877E-02	1.9636E-01	6.1354E-03
96.000	7.2585E+00	2.2731E-01	9.0039E-01	2.8896E-02	2.4380E-01	7.5850E-03
720.000	2.3281E+01	7.1866E-01	1.2956E+00	4.1060E-02	2.8508E-01	8.8427E-03

```
#####################################################################
                        Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
16.0	1.8772E-04	1.8024E-01	5.7450E-03

Attachment 12.3b - RADTRAD Output File "DRE3MS395_West.o0" (Westinghouse Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:49:43
 ######################################################################

 ######################################################################
                     File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3MS395_West.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
Drywell to Intact Control Volume 2
```

```
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
```

```
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
```

```
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
```

```
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
```

```
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:49:43
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
```

```
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:49:43
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.433E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.603E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        4.865E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.482E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.714E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        3.979E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.508E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.379E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        8.763E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)     (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.609E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   7.427E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.436E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   2.022E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   6.465E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.715E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   3.747E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.382E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.647E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   3.846E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.481E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.647E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   4.178E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.609E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.575E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.642E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.106E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.476E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.077E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.890E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.901E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.974E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.819E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.957E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   3.979E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.687E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.290E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   3.945E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.846E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.702E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.912E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.537E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.101E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.172E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
       3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00
     Location Low Population Zone     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       2.0000E+00          1.0900E-05
       8.0000E+00          7.0200E-06
       2.4000E+01          2.7000E-06
       9.6000E+01          6.8600E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       8.0000E+00                 1.8000E-04
       2.4000E+01                 2.3000E-04
       7.2000E+02                 0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
```

```
 Time (hr)         Breathing Rate (m^3 * sec^-1)
  0.0000E+00                 3.5000E-04
  7.2000E+02                 0.0000E+00

Location Occupancy Factor Data
 Time (hr)         Occupancy Factor
  0.0000E+00            1.0000E+00
  2.4000E+01            6.0000E-01
  9.6000E+01            4.0000E-01
  7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
Time            Time step
 0.0000E+00       1.0000E-01
 1.0000E+00       1.0000E-02
 2.0000E+00       5.0000E-01
 8.0000E+00       1.0000E+00
 2.4000E+01       2.0000E+00
 9.6000E+01       5.0000E+00
 7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:49:43
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.5010E+22  0.0000E+00
Elemental I (atoms)    6.2714E+20  0.0000E+00
Organic I (atoms)      1.9396E+19  0.0000E+00
Aerosols (kg)          6.3695E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3887E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7722E-04
Total I (Ci)                                   2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1133E+21
Elemental I (atoms)    0.0000E+00  1.3960E+19
Organic I (atoms)      0.0000E+00  4.3176E+17
Aerosols (kg)          0.0000E+00  1.4168E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5936E+19
Elemental I (atoms)    0.0000E+00  3.0345E+17
Organic I (atoms)      0.0000E+00  9.3849E+15
Aerosols (kg)          0.0000E+00  3.0796E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
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                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2010E-04  2.2630E-02  1.1495E-03
Accumulated dose (rem)  2.2010E-04  2.2630E-02  1.1495E-03

Low Population Zone Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3062E-05  2.3712E-03  1.2044E-04
Accumulated dose (rem)  2.3062E-05  2.3712E-03  1.2044E-04

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.9406E-06  2.1070E-02  8.7356E-04
Accumulated dose (rem)  7.9406E-06  2.1070E-02  8.7356E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.1025E+04  5.3588E-02  3.7967E+23  3.2238E+17
Kr-85m                 3.3017E+05  4.0120E-05  2.8424E+20  5.1134E+18
Kr-87                  5.9815E+05  2.1117E-05  1.4617E+20  9.5020E+18
Kr-88                  8.8559E+05  7.0625E-05  4.8331E+20  1.3795E+19
Rb-86                  2.9483E+03  3.6235E-05  2.5373E+20  4.5213E+16
I-131                  1.2318E+06  9.9362E-03  4.5677E+22  1.8893E+19
I-132                  1.7255E+06  1.6717E-04  7.6266E+20  2.6857E+19
I-133                  2.5118E+06  2.2173E-03  1.0040E+22  3.8597E+19
I-134                  2.4394E+06  9.1442E-05  4.1095E+20  3.9380E+19
I-135                  2.3184E+06  6.6016E-04  2.9449E+21  3.5790E+19
Xe-133                 2.4200E+06  1.2928E-02  5.8539E+22  3.7100E+19
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Xe-135                 1.0138E+06  3.9699E-04  1.7709E+21  1.5397E+19
Cs-134                 3.6447E+05  2.8170E-01  1.2660E+24  5.5886E+18
Cs-136                 8.9056E+04  1.2151E-03  5.3805E+21  1.3657E+18
Cs-137                 2.3141E+05  2.6605E+00  1.1695E+25  3.5483E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.4089E+23  0.0000E+00
Elemental I (atoms)    2.9020E+21  0.0000E+00
Organic I (atoms)      8.9753E+19  0.0000E+00
Aerosols (kg)          2.9558E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.4301E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1779E-04
Total I (Ci)                                   1.0227E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3642E+19
Elemental I (atoms)    0.0000E+00  8.9969E+16
Organic I (atoms)      0.0000E+00  2.7825E+15
Aerosols (kg)          0.0000E+00  9.1457E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3642E+19
Elemental I (atoms)    0.0000E+00  8.9969E+16
Organic I (atoms)      0.0000E+00  2.7825E+15
Aerosols (kg)          0.0000E+00  9.1457E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8095E+18
Elemental I (atoms)    0.0000E+00  4.4909E+16
Organic I (atoms)      0.0000E+00  1.3889E+15
Aerosols (kg)          0.0000E+00  4.5652E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0261E+22
Elemental I (atoms)    0.0000E+00  3.3150E+20
Organic I (atoms)      0.0000E+00  1.0253E+19
Aerosols (kg)          0.0000E+00  3.3696E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2156E+21
Elemental I (atoms)    0.0000E+00  3.4390E+19
Organic I (atoms)      0.0000E+00  1.0636E+18
Aerosols (kg)          0.0000E+00  3.4966E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.8572E-02  4.7337E-08  3.3537E+17  6.8716E+08
Kr-85m                 2.9218E-01  3.5504E-11  2.5154E+14  1.0811E+10
Kr-87                  5.3180E-01  1.8774E-11  1.2996E+14  1.9676E+10
Kr-88                  7.8452E-01  6.2565E-11  4.2816E+14  2.9027E+10
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Rb-86	2.9703E-04	3.6505E-12	2.5563E+13	1.0990E+07
I-131	1.6810E-01	1.3559E-09	6.2332E+15	6.2196E+09
I-132	2.3413E-01	2.2682E-11	1.0348E+14	8.6628E+09
I-133	3.4289E-01	3.0269E-10	1.3705E+15	1.2687E+10
I-134	3.3610E-01	1.2599E-11	5.6621E+13	1.2436E+10
I-135	3.1676E-01	9.0197E-11	4.0235E+14	1.1720E+10
Xe-133	2.1370E+00	1.1417E-08	5.1693E+16	7.9068E+10
Xe-135	8.8704E-01	3.4735E-10	1.5495E+15	3.2821E+10
Cs-134	3.6718E-02	2.8380E-08	1.2754E+17	1.3586E+09
Cs-136	8.9721E-03	1.2242E-10	5.4207E+14	3.3197E+08
Cs-137	2.3313E-02	2.6803E-07	1.1782E+18	8.6259E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	3.8943E+17	6.4891E+14
Elemental I (atoms)	2.3594E+15	3.9315E+12
Organic I (atoms)	7.9294E+13	1.3213E+11
Aerosols (kg)	2.9778E-07	4.9620E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3607E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.0028E-01
Total I (Ci)	1.3980E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5106E+17
Elemental I (atoms)	1.5832E+14	2.1563E+15
Organic I (atoms)	0.0000E+00	7.1586E+13
Aerosols (kg)	2.0669E-06	2.8666E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4422E+16
Elemental I (atoms)	3.2557E+13	1.8493E+14
Organic I (atoms)	0.0000E+00	7.0182E+12
Aerosols (kg)	4.3042E-08	1.0613E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1790E+15
Elemental I (atoms)	3.9638E+12	2.2515E+13
Organic I (atoms)	0.0000E+00	8.5206E+11
Aerosols (kg)	2.7413E-09	3.3778E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2568E+14
Elemental I (atoms)	0.0000E+00	3.1895E+12
Organic I (atoms)	0.0000E+00	1.0719E+11
Aerosols (kg)	0.0000E+00	4.0194E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5579E+14
Elemental I (atoms)	0.0000E+00	5.7991E+12
Organic I (atoms)	0.0000E+00	1.9490E+11

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Aerosols (kg)          0.0000E+00  7.3080E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.2930E+14  0.0000E+00
Elemental I (atoms)    1.3935E+12  0.0000E+00
Organic I (atoms)      4.6751E+10  0.0000E+00
Aerosols (kg)          1.7704E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6714E-03  3.4072E-01  1.8520E-02
Accumulated dose (rem)  4.8915E-03  3.6335E-01  1.9669E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.8947E-04  3.5701E-02  1.9405E-03
Accumulated dose (rem)  5.1253E-04  3.8072E-02  2.0609E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9459E-04  8.3102E-01  3.4258E-02
Accumulated dose (rem)  4.0253E-04  8.5209E-01  3.5132E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.5286E+04  1.4091E-01  9.9836E+23  2.2514E+18
Kr-85m                 8.2455E+05  1.0019E-04  7.0987E+20  3.4544E+19
Kr-87                  1.3116E+06  4.6304E-05  3.2052E+20  5.9118E+19
Kr-88                  2.1468E+06  1.7120E-04  1.1716E+21  9.1437E+19
Rb-86                  1.2754E+03  1.5674E-05  1.0976E+20  1.0863E+17
I-131                  5.3661E+05  4.3284E-03  1.9898E+22  4.5514E+19
I-132                  7.4559E+05  7.2232E-05  3.2954E+20  6.4371E+19
I-133                  1.0833E+06  9.5626E-04  4.3298E+21  9.2628E+19
I-134                  8.1734E+05  3.0639E-05  1.3769E+20  8.6221E+19
I-135                  9.7629E+05  2.7800E-04  1.2401E+21  8.5117E+19
Xe-133                 6.3570E+06  3.3961E-02  1.5377E+23  2.5901E+20
Xe-135                 2.6558E+06  1.0400E-03  4.6392E+21  1.0819E+20
Cs-134                 1.5774E+05  1.2192E-01  5.4791E+23  1.3431E+19
Cs-136                 3.8514E+04  5.2550E-04  2.3269E+21  3.2812E+18
Cs-137                 1.0015E+05  1.1514E+00  5.0613E+24  8.5274E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1590E+24  0.0000E+00
Elemental I (atoms)    1.2484E+21  7.6315E+21
Organic I (atoms)      2.3445E+20  0.0000E+00
Aerosols (kg)          1.2792E+00  7.7865E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7896E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5248E-04
Total I (Ci)                                   4.1591E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1538E+20
Elemental I (atoms)    0.0000E+00  2.8116E+17
Organic I (atoms)      0.0000E+00  2.3439E+16
Aerosols (kg)          0.0000E+00  2.8653E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20
Elemental I (atoms)	0.0000E+00	2.8116E+17
Organic I (atoms)	0.0000E+00	2.3439E+16
Aerosols (kg)	0.0000E+00	2.8653E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7592E+19
Elemental I (atoms)	0.0000E+00	1.4034E+17
Organic I (atoms)	0.0000E+00	1.1700E+16
Aerosols (kg)	0.0000E+00	1.4302E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0933E+23
Elemental I (atoms)	0.0000E+00	1.0063E+21
Organic I (atoms)	0.0000E+00	8.3158E+19
Aerosols (kg)	0.0000E+00	1.0254E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1136E+23
Elemental I (atoms)	0.0000E+00	3.8188E+20
Organic I (atoms)	0.0000E+00	2.2603E+19
Aerosols (kg)	0.0000E+00	3.8988E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	5.8024E-01	1.4789E-06	1.0478E+19	2.1469E+10
Kr-85m	8.7602E+00	1.0645E-09	7.5418E+15	3.2413E+11
Kr-87	1.4384E+01	5.0782E-10	3.5151E+15	5.3222E+11
Kr-88	2.2971E+01	1.8320E-09	1.2537E+16	8.4994E+11
Rb-86	4.5847E-03	5.6346E-11	3.9456E+14	1.6963E+08
I-131	2.7072E+00	2.1836E-08	1.0038E+17	1.0016E+11
I-132	3.5797E+00	3.4680E-10	1.5822E+15	1.3245E+11
I-133	5.4832E+00	4.8403E-09	2.1917E+16	2.0288E+11
I-134	4.5073E+00	1.6896E-10	7.5932E+14	1.6677E+11
I-135	4.9805E+00	1.4182E-09	6.3263E+15	1.8428E+11
Xe-133	6.6726E+01	3.5647E-07	1.6141E+18	2.4688E+12
Xe-135	2.7802E+01	1.0887E-08	4.8564E+16	1.0287E+12
Cs-134	5.6695E-01	4.3820E-07	1.9693E+18	2.0977E+10
Cs-136	1.3846E-01	1.8892E-09	8.3656E+15	5.1232E+09
Cs-137	3.5997E-01	4.1385E-06	1.8192E+19	1.3319E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.2164E+19	6.7580E+15
Elemental I (atoms)	4.0502E+16	2.2501E+13
Organic I (atoms)	2.4636E+15	1.3686E+12
Aerosols (kg)	4.5979E-06	2.5544E-09

Dose Effective (Ci) I-131 (Thyroid)	3.7898E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.7931E+00
Total I (Ci)	2.1258E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.2596E+18
Elemental I (atoms)	2.2380E+15	3.0482E+16
Organic I (atoms)	0.0000E+00	1.8792E+15
Aerosols (kg)	2.9344E-05	4.0698E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5669E+18
Elemental I (atoms)	1.5728E+15	8.9334E+15
Organic I (atoms)	0.0000E+00	5.2069E+14
Aerosols (kg)	2.0897E-06	5.1526E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3963E+17
Elemental I (atoms)	2.1254E+14	1.2072E+15
Organic I (atoms)	0.0000E+00	6.8889E+13
Aerosols (kg)	1.4774E-07	1.8204E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6421E+16
Elemental I (atoms)	0.0000E+00	5.4782E+13
Organic I (atoms)	0.0000E+00	3.3323E+12
Aerosols (kg)	0.0000E+00	6.2061E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9857E+16
Elemental I (atoms)	0.0000E+00	9.9604E+13
Organic I (atoms)	0.0000E+00	6.0586E+12
Aerosols (kg)	0.0000E+00	1.1284E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	1.7605E+16	0.0000E+00
Elemental I (atoms)	6.8361E+13	0.0000E+00
Organic I (atoms)	3.5711E+12	0.0000E+00
Aerosols (kg)	7.9454E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.1652E-03	2.9970E-01	1.8639E-02
Accumulated dose (rem)	1.1057E-02	6.6305E-01	3.8308E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.4600E-04	3.1403E-02	1.9530E-03
Accumulated dose (rem)	1.1585E-03	6.9475E-02	4.0140E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3236E-04	9.9695E-01	4.1417E-02
Accumulated dose (rem)	1.0349E-03	1.8490E+00	7.6549E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8269E+05	4.6564E-01	3.2990E+24	5.6628E+18
Kr-85m	2.6553E+06	3.2266E-04	2.2860E+21	8.4723E+19
Kr-87	3.9576E+06	1.3972E-04	9.6713E+20	1.3622E+20
Kr-88	6.8110E+06	5.4318E-04	3.7171E+21	2.2104E+20
Rb-86	1.6517E+03	2.0299E-05	1.4215E+20	1.4457E+17
Sr-89	6.3072E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90	8.7080E+03	6.3838E-02	4.2716E+23	1.7667E+17
Sr-91	7.4866E+04	2.0653E-05	1.3667E+20	1.5278E+18
Sr-92	7.1468E+04	5.6859E-06	3.7219E+19	1.4801E+18
Y-90	9.8349E+01	1.8077E-07	1.2096E+18	1.8368E+15
Y-91	8.1031E+02	3.3042E-05	2.1866E+20	1.6414E+16
Y-92	2.1882E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93	9.2754E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95	1.0708E+03	4.9845E-05	3.1597E+20	2.1726E+16
Zr-97	1.0345E+03	5.4117E-07	3.3598E+18	2.1059E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99	1.4729E+04	3.0711E-05	1.8681E+20	2.9909E+17
Tc-99m	1.3008E+04	2.4738E-06	1.5048E+19	2.6261E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105	8.0551E+03	1.1983E-06	6.8728E+18	1.6549E+17
Ru-106	5.4901E+03	1.6410E-03	9.3230E+21	1.1139E+17
Rh-105	8.4283E+03	9.9854E-06	5.7270E+19	1.7087E+17
Sb-127	1.7193E+04	6.4379E-05	3.0528E+20	3.4902E+17
Sb-129	4.6040E+04	8.1872E-06	3.8221E+19	9.4621E+17
Te-127	1.7145E+04	6.4965E-06	3.0805E+19	3.4688E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	4.6905E+16
Te-129	4.8091E+04	2.2964E-06	1.0720E+19	9.6086E+17
Te-129m	7.4967E+03	2.4885E-04	1.1617E+21	1.5209E+17
Te-131m	2.2570E+04	2.8304E-05	1.3012E+20	4.5876E+17
Te-132	2.2214E+05	7.3169E-04	3.3381E+21	4.5100E+18
I-131	8.5233E+05	6.8751E-03	3.1605E+22	6.3821E+19
I-132	1.1991E+06	1.1616E-04	5.2996E+20	9.0284E+19
I-133	1.7119E+06	1.5112E-03	6.8428E+21	1.2949E+20
I-134	1.1385E+06	4.2678E-05	1.9180E+20	1.1233E+20
I-135	1.5246E+06	4.3413E-04	1.9366E+21	1.1814E+20
Xe-133	2.1007E+07	1.1223E-01	5.0817E+23	6.5137E+20
Xe-135	8.8891E+06	3.4808E-03	1.5527E+22	2.7431E+20
Cs-134	2.0434E+05	1.5793E-01	7.0977E+23	1.7876E+19
Cs-136	4.9874E+04	6.8050E-04	3.0133E+21	4.3663E+18
Cs-137	1.2974E+05	1.4916E+00	6.5566E+24	1.1350E+19
Ba-139	8.2650E+04	5.0529E-06	2.1892E+19	1.7464E+18
Ba-140	1.1155E+05	1.5237E-03	6.5541E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3846E+02	1.6594E-07	7.0874E+17	1.9312E+16
La-142	7.5358E+02	5.2643E-08	2.2325E+17	1.5854E+16
Ce-141	2.6387E+03	9.2607E-05	3.9552E+20	5.3536E+16
Ce-143	2.4315E+03	3.6614E-06	1.5419E+19	4.9414E+16
Ce-144	2.1960E+03	6.8852E-04	2.8794E+21	4.4554E+16
Pr-143	9.5573E+02	1.4193E-05	5.9770E+19	1.9383E+16
Nd-147	4.2083E+02	5.2020E-06	2.1311E+19	8.5399E+15
Np-239	3.1141E+04	1.3424E-04	3.3824E+20	6.3244E+17
Pu-238	1.2230E+01	7.1439E-04	1.8076E+21	2.4813E+14
Pu-239	7.2457E-01	1.1657E-02	2.9373E+22	1.4700E+13
Pu-240	7.3031E-01	3.2050E-03	8.0421E+21	1.4817E+13
Pu-241	4.3534E+02	4.2261E-03	1.0560E+22	8.8324E+15
Am-241	3.0819E-01	8.9794E-05	2.2438E+20	6.2525E+12
Cm-242	6.0556E+01	1.8271E-05	4.5468E+19	1.2286E+15

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Cm-244                 7.7830E+00  9.6202E-05  2.3744E+20  1.5791E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    3.8297E+24  0.0000E+00
Elemental I (atoms)    1.9793E+21  1.2075E+22
Organic I (atoms)      3.5761E+20  0.0000E+00
Aerosols (kg)          1.7508E+00  1.1832E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.4225E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.5738E-04
Total I (Ci)                                   6.4264E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7405E+20
Elemental I (atoms)    0.0000E+00  3.9248E+17
Organic I (atoms)      0.0000E+00  4.2080E+16
Aerosols (kg)          0.0000E+00  3.8787E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7405E+20
Elemental I (atoms)    0.0000E+00  3.9248E+17
Organic I (atoms)      0.0000E+00  4.2080E+16
Aerosols (kg)          0.0000E+00  3.8787E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3680E+20
Elemental I (atoms)    0.0000E+00  1.9591E+17
Organic I (atoms)      0.0000E+00  2.1004E+16
Aerosols (kg)          0.0000E+00  1.9361E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6936E+23
Elemental I (atoms)    0.0000E+00  1.3992E+21
Organic I (atoms)      0.0000E+00  1.4895E+20
Aerosols (kg)          0.0000E+00  1.3831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6547E+23
Elemental I (atoms)    0.0000E+00  6.1354E+20
Organic I (atoms)      0.0000E+00  4.8852E+19
Aerosols (kg)          0.0000E+00  6.2255E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.5093E+00  3.8469E-06  2.7255E+19  5.5843E+10
Kr-85m                 2.2332E+01  2.7137E-09  1.9226E+16  8.2630E+11
Kr-87                  3.4877E+01  1.2313E-09  8.5229E+15  1.2904E+12
Kr-88                  5.7887E+01  4.6165E-09  3.1592E+16  2.1418E+12
Rb-86                  8.1556E-03  1.0023E-10  7.0187E+14  3.0176E+08
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Sr-89	1.1248E-02	3.8717E-10	2.6197E+15	4.1618E+08
Sr-90	1.5529E-03	1.1385E-08	7.6177E+16	5.7458E+07
Sr-91	1.3368E-02	3.6878E-12	2.4405E+13	4.9462E+08
Sr-92	1.2802E-02	1.0185E-12	6.6672E+12	4.7369E+08
Y-90	1.8279E-05	3.3596E-14	2.2480E+11	6.7631E+05
Y-91	1.4463E-04	5.8975E-12	3.9028E+13	5.3513E+06
Y-92	5.0314E-04	5.2289E-14	3.4227E+11	1.8616E+07
Y-93	1.6561E-04	4.9639E-14	3.2143E+11	6.1276E+06
Zr-95	1.9096E-04	8.8891E-12	5.6349E+13	7.0656E+06
Zr-97	1.8463E-04	9.6579E-14	5.9960E+11	6.8312E+06
Nb-95	1.9238E-04	4.9199E-12	3.1188E+13	7.1182E+06
Mo-99	2.6272E-03	5.4778E-12	3.3321E+13	9.7208E+07
Tc-99m	2.3197E-03	4.4116E-13	2.6835E+12	8.5829E+07
Ru-103	2.2318E-03	6.9151E-11	4.0431E+14	8.2575E+07
Ru-105	1.4404E-03	2.1428E-13	1.2290E+12	5.3296E+07
Ru-106	9.7908E-04	2.9265E-10	1.6626E+15	3.6226E+07
Rh-105	1.5031E-03	1.7808E-12	1.0213E+13	5.5613E+07
Sb-127	3.0664E-03	1.1483E-11	5.4448E+13	1.1346E+08
Sb-129	8.2336E-03	1.4642E-12	6.8352E+12	3.0464E+08
Te-127	3.0577E-03	1.1586E-12	5.4939E+12	1.1313E+08
Te-127m	4.1230E-04	4.3710E-11	2.0726E+14	1.5255E+07
Te-129	8.5891E-03	4.1013E-13	1.9146E+12	3.1780E+08
Te-129m	1.3369E-03	4.4378E-11	2.0717E+14	4.9466E+07
Te-131m	4.0266E-03	5.0497E-12	2.3214E+13	1.4899E+08
Te-132	3.9620E-02	1.3051E-10	5.9539E+14	1.4660E+09
I-131	4.9419E+00	3.9863E-08	1.8325E+17	1.8285E+11
I-132	6.4167E+00	6.2164E-10	2.8361E+15	2.3742E+11
I-133	9.9775E+00	8.8078E-09	3.9881E+16	3.6917E+11
I-134	7.5826E+00	2.8424E-10	1.2774E+15	2.8056E+11
I-135	8.9937E+00	2.5610E-09	1.1424E+16	3.3277E+11
Xe-133	1.7350E+02	9.2688E-07	4.1968E+18	6.4193E+12
Xe-135	7.2247E+01	2.8291E-08	1.2620E+17	2.6731E+12
Cs-134	1.0087E+00	7.7962E-07	3.5037E+18	3.7321E+10
Cs-136	2.4629E-01	3.3604E-09	1.4880E+16	9.1127E+09
Cs-137	6.4045E-01	7.3630E-06	3.2366E+19	2.3697E+10
Ba-139	1.4871E-02	9.0913E-13	3.9388E+12	5.5021E+08
Ba-140	1.9893E-02	2.7173E-10	1.1689E+15	7.3605E+08
La-140	2.6185E-04	4.7111E-13	2.0265E+12	9.6886E+06
La-141	1.6788E-04	2.9684E-14	1.2678E+11	6.2114E+06
La-142	1.3546E-04	9.4626E-15	4.0130E+10	5.0119E+06
Ce-141	4.7056E-04	1.6515E-11	7.0534E+13	1.7411E+07
Ce-143	4.3377E-04	6.5319E-13	2.7508E+12	1.6050E+07
Ce-144	3.9163E-04	1.2279E-10	5.1350E+14	1.4490E+07
Pr-143	1.7046E-04	2.5314E-12	1.0661E+13	6.3071E+06
Nd-147	7.5052E-05	9.2774E-13	3.8006E+12	2.7769E+06
Np-239	5.5548E-03	2.3944E-11	6.0332E+13	2.0553E+08
Pu-238	2.1810E-06	1.2740E-10	3.2236E+14	8.0699E+04
Pu-239	1.2922E-07	2.0789E-09	5.2382E+15	4.7810E+03
Pu-240	1.3024E-07	5.7156E-10	1.4342E+15	4.8189E+03
Pu-241	7.7636E-05	7.5366E-10	1.8832E+15	2.8725E+06
Am-241	5.4961E-08	1.6013E-11	4.0014E+13	2.0335E+03
Cm-242	1.0799E-05	3.2584E-12	8.1085E+12	3.9957E+05
Cm-244	1.3880E-06	1.7156E-11	4.2343E+13	5.1355E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.1637E+19	1.3182E+16
Elemental I (atoms)	7.5164E+16	3.1317E+13
Organic I (atoms)	5.9782E+15	2.4908E+12
Aerosols (kg)	8.1969E-06	3.4152E-09

Dose Effective (Ci) I-131 (Thyroid)	6.9089E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.7178E+00
Total I (Ci)	3.7912E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3040E+19
Elemental I (atoms)    3.8788E+15  5.2828E+16
Organic I (atoms)      0.0000E+00  4.2944E+15
Aerosols (kg)          5.0626E-05  7.0215E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5670E+18
Elemental I (atoms)    3.4662E+15  1.9688E+16
Organic I (atoms)      0.0000E+00  1.4901E+15
Aerosols (kg)          4.6080E-06  1.1362E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0384E+18
Elemental I (atoms)    4.9346E+14  2.8028E+15
Organic I (atoms)      0.0000E+00  2.0510E+14
Aerosols (kg)          3.4332E-07  4.2302E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.2708E+16
Elemental I (atoms)    0.0000E+00  1.0165E+14
Organic I (atoms)      0.0000E+00  8.0845E+12
Aerosols (kg)          0.0000E+00  1.1064E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.7652E+16
Elemental I (atoms)    0.0000E+00  1.8482E+14
Organic I (atoms)      0.0000E+00  1.4699E+13
Aerosols (kg)          0.0000E+00  2.0116E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    5.2456E+16  0.0000E+00
Elemental I (atoms)    1.5183E+14  0.0000E+00
Organic I (atoms)      1.0340E+13  0.0000E+00
Aerosols (kg)          1.6996E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.1451E-01  6.5591E+00  8.3232E-01
Accumulated dose (rem)  5.2557E-01  7.2222E+00  8.7063E-01

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.3911E-02  6.8727E-01  8.7212E-02
Accumulated dose (rem)  5.5070E-02  7.5674E-01  9.1226E-02

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4134E-02	7.2286E+00	3.6515E-01
Accumulated dose (rem)	4.5169E-02	9.0776E+00	4.4170E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.4023E+05	2.3965E+00	1.6979E+25	1.0970E+20
Kr-85m	1.1118E+07	1.3510E-03	9.5718E+21	1.4224E+21
Kr-87	9.8475E+06	3.4765E-04	2.4065E+21	1.6206E+21
Kr-88	2.5316E+07	2.0190E-03	1.3817E+22	3.4225E+21
Rb-86	1.7229E+03	2.1174E-05	1.4827E+20	4.4810E+17
Sr-89	7.2212E+04	2.4856E-03	1.6819E+22	1.3825E+19
Sr-90	9.9774E+03	7.3144E-02	4.8943E+23	1.9094E+18
Sr-91	7.7828E+04	2.1470E-05	1.4208E+20	1.5716E+19
Sr-92	5.8225E+04	4.6323E-06	3.0322E+19	1.3507E+19
Y-90	1.1338E+02	2.0840E-07	1.3944E+18	2.0940E+16
Y-91	9.2802E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0811E+03	2.1628E-07	1.4157E+18	3.4679E+17
Y-93	9.6982E+02	2.9069E-07	1.8823E+18	1.9521E+17
Zr-95	1.2262E+03	5.7076E-05	3.6181E+20	2.3474E+17
Zr-97	1.1223E+03	5.8707E-07	3.6447E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3655E+17
Mo-99	1.6642E+04	3.4698E-05	2.1107E+20	3.2094E+18
Tc-99m	1.4885E+04	2.8308E-06	1.7220E+19	2.8454E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.4950E+03	1.1150E-06	6.3949E+18	1.6108E+18
Ru-106	6.2898E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6227E+03	1.1401E-05	6.5386E+19	1.8452E+18
Sb-127	1.9503E+04	7.3030E-05	3.4630E+20	3.7529E+18
Sb-129	4.2592E+04	7.5741E-06	3.5358E+19	9.1839E+18
Te-127	1.9554E+04	7.4094E-06	3.5134E+19	3.7471E+18
Te-127m	2.6493E+03	2.8086E-04	1.3318E+21	5.0698E+17
Te-129	4.7891E+04	2.2868E-06	1.0676E+19	9.8475E+18
Te-129m	8.5917E+03	2.8520E-04	1.3314E+21	1.6440E+18
Te-131m	2.5076E+04	3.1447E-05	1.4456E+20	4.8807E+18
Te-132	2.5153E+05	8.2850E-04	3.7798E+21	4.8449E+19
I-131	9.1931E+05	7.4153E-03	3.4089E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7211E+20	3.1679E+20
I-133	1.7738E+06	1.5658E-03	7.0898E+21	4.4508E+20
I-134	4.2974E+05	1.6109E-05	7.2397E+19	2.4436E+20
I-135	1.4360E+06	4.0889E-04	1.8240E+21	3.8620E+20
Xe-133	1.0777E+08	5.7577E-01	2.6070E+24	1.2593E+22
Xe-135	4.5742E+07	1.7912E-02	7.9902E+22	5.3523E+21
Cs-134	2.1357E+05	1.6507E-01	7.4185E+23	5.5464E+19
Cs-136	5.1978E+04	7.0920E-04	3.1404E+21	1.3528E+19
Cs-137	1.3561E+05	1.5591E+00	6.8533E+24	3.5216E+19
Ba-139	4.8434E+04	2.9611E-06	1.2829E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4868E+21	2.4426E+19
La-140	1.5974E+03	2.8740E-06	1.2363E+19	2.9053E+17
La-141	8.4994E+02	1.5029E-07	6.4188E+17	1.8550E+17
La-142	4.7412E+02	3.3120E-08	1.4046E+17	1.2825E+17
Ce-141	3.0226E+03	1.0608E-04	4.5307E+20	5.7855E+17
Ce-143	2.7090E+03	4.0793E-06	1.7179E+19	5.2646E+17
Ce-144	2.5158E+03	7.8878E-04	3.2987E+21	4.8151E+17
Pr-143	1.0951E+03	1.6262E-05	6.8485E+19	2.0954E+17
Nd-147	4.8049E+02	5.9395E-06	2.4332E+19	9.2132E+16
Np-239	3.5102E+04	1.5131E-04	3.8126E+20	6.7782E+18
Pu-238	1.4013E+01	8.1854E-04	2.0712E+21	2.6818E+15
Pu-239	8.3035E-01	1.3359E-02	3.3661E+22	1.5889E+14
Pu-240	8.3678E-01	3.6722E-03	9.2144E+21	1.6014E+14
Pu-241	4.9880E+02	4.8421E-03	1.2100E+22	9.5459E+16
Am-241	3.5316E-01	1.0290E-04	2.5712E+20	6.7582E+13
Cm-242	6.9367E+01	2.0930E-05	5.2083E+19	1.3277E+16
Cm-244	8.9176E+00	1.1023E-04	2.7205E+20	1.7066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9692E+25	0.0000E+00	
Elemental I (atoms)	2.0641E+21	5.3236E+22	
Organic I (atoms)	1.1513E+21	0.0000E+00	
Aerosols (kg)	1.8392E+00	4.8224E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6997E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8246E-04
Total I (Ci)			5.8532E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1575E+21
Elemental I (atoms)	0.0000E+00	7.1064E+17
Organic I (atoms)	0.0000E+00	2.1285E+17
Aerosols (kg)	0.0000E+00	6.4870E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2328E+25
Elemental I (atoms)	0.0000E+00	5.0387E+21
Organic I (atoms)	0.0000E+00	1.5054E+21
Aerosols (kg)	0.0000E+00	4.6010E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2913E+25
Elemental I (atoms)	0.0000E+00	3.6877E+21
Organic I (atoms)	0.0000E+00	9.2401E+20
Aerosols (kg)	0.0000E+00	3.4220E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.2133E+02	3.0926E-04	2.1911E+21	4.4894E+12
Kr-85m	1.5308E+03	1.8601E-07	1.3179E+18	5.6639E+13
Kr-87	1.6155E+03	5.7034E-08	3.9479E+17	5.9775E+13
Kr-88	3.6227E+03	2.8891E-07	1.9771E+18	1.3404E+14
Rb-86	7.1238E-02	8.7551E-10	6.1308E+15	2.6358E+09
Sr-89	1.6741E+00	5.7624E-08	3.8991E+17	6.1942E+10

Sr-90	2.3125E-01	1.6953E-06	1.1343E+19	8.5561E+09
Sr-91	1.8683E+00	5.1540E-10	3.4108E+15	6.9127E+10
Sr-92	1.5304E+00	1.2175E-10	7.9697E+14	5.6624E+10
Y-90	3.7651E-03	6.9203E-12	4.6306E+13	1.3931E+08
Y-91	2.1694E-02	8.8461E-10	5.8541E+15	8.0268E+08
Y-92	1.8928E-01	1.9670E-11	1.2876E+14	7.0032E+09
Y-93	2.3232E-02	6.9635E-12	4.5091E+13	8.5960E+08
Zr-95	2.8425E-02	1.3231E-09	8.3875E+15	1.0517E+09
Zr-97	2.6528E-02	1.3877E-11	8.6153E+13	9.8153E+08
Nb-95	2.8648E-02	7.3262E-10	4.6441E+15	1.0600E+09
Mo-99	3.8765E-01	8.0825E-10	4.9166E+15	1.4343E+10
Tc-99m	3.4522E-01	6.5653E-11	3.9937E+14	1.2773E+10
Ru-103	3.3212E-01	1.0291E-08	6.0166E+16	1.2288E+10
Ru-105	1.8741E-01	2.7880E-11	1.5990E+14	6.9342E+09
Ru-106	1.4578E-01	4.3575E-08	2.4756E+17	5.3940E+09
Rh-105	2.2340E-01	2.6467E-10	1.5180E+15	8.2656E+09
Sb-127	4.5364E-01	1.6987E-09	8.0550E+15	1.6785E+10
Sb-129	1.0673E+00	1.8979E-10	8.8602E+14	3.9489E+10
Te-127	4.5398E-01	1.7202E-10	8.1569E+14	1.6797E+10
Te-127m	6.1400E-02	6.5093E-09	3.0866E+16	2.2718E+09
Te-129	1.1722E+00	5.5972E-11	2.6130E+14	4.3371E+10
Te-129m	1.9912E-01	6.6096E-09	3.0856E+16	7.3673E+09
Te-131m	5.8764E-01	7.3694E-10	3.3878E+15	2.1743E+10
Te-132	5.8544E+00	1.9284E-08	8.7977E+16	2.1661E+11
I-131	5.3644E+01	4.3270E-07	1.9892E+18	1.9848E+12
I-132	6.4371E+01	6.2362E-09	2.8451E+16	2.3817E+12
I-133	1.0549E+02	9.3126E-08	4.2167E+17	3.9033E+12
I-134	4.3614E+01	1.6349E-09	7.3476E+15	1.6137E+12
I-135	8.9370E+01	2.5448E-08	1.1352E+17	3.3067E+12
Xe-133	1.3904E+04	7.4283E-05	3.3635E+20	5.1446E+14
Xe-135	5.7351E+03	2.2458E-06	1.0018E+19	2.1220E+14
Cs-134	8.8220E+00	6.8185E-06	3.0643E+19	3.2641E+11
Cs-136	2.1501E+00	2.9337E-08	1.2991E+17	7.9555E+10
Cs-137	5.6015E+00	6.4399E-05	2.8308E+20	2.0726E+11
Ba-139	1.4479E+00	8.8516E-11	3.8349E+14	5.3570E+10
Ba-140	2.9564E+00	4.0383E-08	1.7371E+17	1.0939E+11
La-140	6.0106E-02	1.0814E-10	4.6515E+14	2.2239E+09
La-141	2.1467E-02	3.7959E-12	1.6212E+13	7.9428E+08
La-142	1.3777E-02	9.6240E-13	4.0815E+12	5.0974E+08
Ce-141	7.0048E-02	2.4584E-09	1.0500E+16	2.5918E+09
Ce-143	6.3420E-02	9.5501E-11	4.0218E+14	2.3466E+09
Ce-144	5.8312E-02	1.8282E-08	7.6458E+16	2.1575E+09
Pr-143	2.5418E-02	3.7747E-10	1.5896E+15	9.4048E+08
Nd-147	1.1150E-02	1.3783E-10	5.6465E+14	4.1256E+08
Np-239	8.1835E-01	3.5275E-09	8.8884E+15	3.0279E+10
Pu-238	3.2478E-04	1.8971E-08	4.8003E+16	1.2017E+07
Pu-239	1.9244E-05	3.0960E-07	7.8011E+17	7.1202E+05
Pu-240	1.9394E-05	8.5111E-08	2.1356E+17	7.1758E+05
Pu-241	1.1561E-02	1.1223E-07	2.8043E+17	4.2775E+08
Am-241	8.1854E-06	2.3849E-09	5.9595E+15	3.0286E+05
Cm-242	1.6079E-03	4.8513E-10	1.2072E+15	5.9491E+07
Cm-244	2.0668E-04	2.5547E-09	6.3053E+15	7.6473E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.5411E+21	3.5294E+17
Elemental I (atoms)	8.2862E+17	1.1509E+14
Organic I (atoms)	1.9644E+17	2.7284E+13
Aerosols (kg)	7.4027E-05	1.0282E-08

Dose Effective (Ci) I-131 (Thyroid)	7.4219E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.2342E+01
Total I (Ci)	3.5649E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4637E+21
Elemental I (atoms)    3.3699E+16  4.5898E+17
Organic I (atoms)      0.0000E+00  1.0972E+17
Aerosols (kg)          4.0709E-04  5.6460E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.2196E+20
Elemental I (atoms)    5.4699E+16  3.1069E+17
Organic I (atoms)      0.0000E+00  7.3829E+16
Aerosols (kg)          6.7835E-05  1.6726E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5557E+20
Elemental I (atoms)    1.0461E+16  5.9418E+16
Organic I (atoms)      0.0000E+00  1.2964E+16
Aerosols (kg)          6.8521E-06  8.4429E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8141E+18
Elemental I (atoms)    8.2411E+14  1.0997E+14
Organic I (atoms)      2.0830E+14  1.0189E+13
Aerosols (kg)          7.1974E-08  1.1791E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8583E+17
Elemental I (atoms)    0.0000E+00  3.6749E+14
Organic I (atoms)      0.0000E+00  6.0872E+13
Aerosols (kg)          0.0000E+00  3.6070E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.5390E+18  0.0000E+00
Elemental I (atoms)    3.6780E+14  0.0000E+00
Organic I (atoms)      4.3030E+13  0.0000E+00
Aerosols (kg)          3.8381E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0299E-01  8.9191E-01  1.4715E-01
Accumulated dose (rem)  6.2856E-01  8.1141E+00  1.0178E+00

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.4724E-03  3.8732E-02  6.3903E-03
Accumulated dose (rem)  5.9542E-02  7.9548E-01  9.7616E-02

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	1.6745E-02	1.0962E+00	6.9553E-02
Accumulated dose (rem)	6.1914E-02	1.0174E+01	5.1125E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.8921E+05	2.2665E+00	1.6058E+25	1.3367E+20
Kr-85m	1.0195E+07	1.2388E-03	8.7766E+21	1.7016E+21
Kr-87	8.3513E+06	2.9483E-04	2.0408E+21	1.8586E+21
Kr-88	2.2802E+07	1.8185E-03	1.2444E+22	4.0526E+21
Rb-86	1.7700E+02	2.1753E-06	1.5233E+19	4.5633E+17
Sr-89	7.2523E+03	2.4963E-04	1.6891E+21	1.4166E+19
Sr-90	1.0022E+03	7.3468E-03	4.9160E+22	1.9565E+18
Sr-91	7.7040E+03	2.1252E-06	1.4064E+19	1.6081E+19
Sr-92	5.5566E+03	4.4208E-07	2.8937E+18	1.3776E+19
Y-90	1.5909E+01	2.9241E-08	1.9566E+17	2.1552E+16
Y-91	9.3894E+01	3.8287E-06	2.5337E+19	1.8193E+17
Y-92	6.7159E+02	6.9795E-08	4.5686E+17	3.6465E+17
Y-93	9.6084E+01	2.8800E-08	1.8649E+17	1.9976E+17
Zr-95	1.2315E+02	5.7324E-06	3.6338E+19	2.4053E+17
Zr-97	1.1180E+02	5.8485E-08	3.6310E+17	2.2661E+17
Nb-95	1.2415E+02	3.1749E-06	2.0126E+19	2.4238E+17
Mo-99	1.6681E+03	3.4779E-06	2.1156E+19	3.2879E+18
Tc-99m	1.4947E+03	2.8426E-07	1.7291E+18	2.9153E+18
Ru-103	1.4386E+03	4.4575E-05	2.6062E+20	2.8105E+18
Ru-105	7.2968E+02	1.0855E-07	6.2258E+17	1.6458E+18
Ru-106	6.3176E+02	1.8883E-04	1.0728E+21	1.2335E+18
Rh-105	9.6566E+02	1.1441E-06	6.5617E+18	1.8905E+18
Sb-127	1.9560E+03	7.3244E-06	3.4731E+19	3.8449E+18
Sb-129	4.1430E+03	7.3674E-07	3.4393E+18	9.3825E+18
Te-127	1.9627E+03	7.4372E-07	3.5266E+18	3.8391E+18
Te-127m	2.6611E+02	2.8211E-05	1.3377E+20	5.1948E+17
Te-129	4.7096E+03	2.2489E-07	1.0498E+18	1.0066E+19
Te-129m	8.6299E+02	2.8647E-05	1.3373E+20	1.6846E+18
Te-131m	2.5071E+03	3.1440E-06	1.4453E+19	4.9988E+18
Te-132	2.5219E+04	8.3070E-05	3.7898E+20	4.9635E+19
I-131	1.1456E+05	9.2406E-04	4.2479E+21	2.2904E+20
I-132	1.4640E+05	1.4183E-05	6.4706E+19	3.2334E+20
I-133	2.1974E+05	1.9398E-04	8.7831E+20	4.5449E+20
I-134	4.5755E+04	1.7152E-06	7.7081E+18	2.4650E+20
I-135	1.7536E+05	4.9935E-05	2.2275E+20	3.9377E+20
Xe-133	1.0180E+08	5.4386E-01	2.4625E+24	1.5339E+22
Xe-135	4.2477E+07	1.6633E-02	7.4199E+22	6.5070E+21
Cs-134	2.1948E+04	1.6964E-02	7.6237E+22	5.6485E+19
Cs-136	5.3393E+03	7.2850E-05	3.2258E+20	1.3776E+19
Cs-137	1.3936E+04	1.6022E-01	7.0428E+23	3.5865E+19
Ba-139	4.3994E+03	2.6896E-07	1.1653E+18	1.3903E+19
Ba-140	1.2793E+04	1.7474E-04	7.5166E+20	2.5027E+19
La-140	2.5197E+02	4.5333E-07	1.9500E+18	2.9962E+17
La-141	8.2411E+01	1.4572E-08	6.2238E+16	1.8945E+17
La-142	4.3527E+01	3.0406E-09	1.2895E+16	1.3041E+17
Ce-141	3.0353E+02	1.0653E-05	4.5498E+19	5.9281E+17
Ce-143	2.7096E+02	4.0802E-07	1.7183E+18	5.3922E+17
Ce-144	2.5269E+02	7.9226E-05	3.3133E+20	4.9338E+17
Pr-143	1.1014E+02	1.6356E-06	6.8880E+18	2.1471E+17
Nd-147	4.8237E+01	5.9626E-07	2.4427E+18	9.4400E+16
Np-239	3.5172E+03	1.5161E-05	3.8201E+19	6.9438E+18
Pu-238	1.4075E+00	8.2217E-05	2.0803E+20	2.7479E+15
Pu-239	8.3406E-02	1.3419E-03	3.3811E+21	1.6281E+14
Pu-240	8.4049E-02	3.6885E-04	9.2553E+20	1.6409E+14
Pu-241	5.0101E+01	4.8636E-04	1.2153E+21	9.7814E+16
Am-241	3.5476E-02	1.0336E-05	2.5828E+19	6.9249E+13
Cm-242	6.9672E+00	2.1022E-06	5.2312E+18	1.3604E+16
Cm-244	8.9571E-01	1.1071E-05	2.7325E+19	1.7487E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8618E+25	0.0000E+00	
Elemental I (atoms)	2.1030E+20	5.5265E+22	
Organic I (atoms)	1.0918E+21	0.0000E+00	
Aerosols (kg)	1.8875E-01	5.0034E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.8411E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.2094E-05
Total I (Ci)			7.0182E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5796E+21
Elemental I (atoms)	0.0000E+00	7.2559E+17
Organic I (atoms)	0.0000E+00	2.3760E+17
Aerosols (kg)	0.0000E+00	6.6204E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7393E+25
Elemental I (atoms)	0.0000E+00	5.2181E+21
Organic I (atoms)	0.0000E+00	1.8024E+21
Aerosols (kg)	0.0000E+00	4.7610E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6912E+25
Elemental I (atoms)	0.0000E+00	4.1678E+21
Organic I (atoms)	0.0000E+00	1.1653E+21
Aerosols (kg)	0.0000E+00	3.8528E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.4867E+02	3.7894E-04	2.6848E+21	5.5009E+12
Kr-85m	1.8466E+03	2.2438E-07	1.5897E+18	6.8323E+13
Kr-87	1.8792E+03	6.6344E-08	4.5924E+17	6.9532E+13
Kr-88	4.3321E+03	3.4548E-07	2.3643E+18	1.6029E+14
Rb-86	7.9073E-02	9.7180E-10	6.8050E+15	2.9257E+09
Sr-89	1.9386E+00	6.6730E-08	4.5152E+17	7.1730E+10
Sr-90	2.6780E-01	1.9632E-06	1.3137E+19	9.9086E+09

Sr-91	2.1503E+00	5.9320E-10	3.9256E+15	7.9562E+10
Sr-92	1.7357E+00	1.3809E-10	9.0389E+14	6.4220E+10
Y-90	4.4906E-03	8.2539E-12	5.5229E+13	1.6615E+08
Y-91	2.5142E-02	1.0252E-09	6.7845E+15	9.3025E+08
Y-92	2.2966E-01	2.3867E-11	1.5623E+14	8.4973E+09
Y-93	2.6749E-02	8.0175E-12	5.1917E+13	9.8972E+08
Zr-95	3.2917E-02	1.5322E-09	9.7130E+15	1.2179E+09
Zr-97	3.0614E-02	1.6014E-11	9.9424E+13	1.1327E+09
Nb-95	3.3176E-02	8.4842E-10	5.3782E+15	1.2275E+09
Mo-99	4.4852E-01	9.3518E-10	5.6886E+15	1.6595E+10
Tc-99m	3.9974E-01	7.6022E-11	4.6244E+14	1.4790E+10
Ru-103	3.8459E-01	1.1917E-08	6.9673E+16	1.4230E+10
Ru-105	2.1423E-01	3.1870E-11	1.8279E+14	7.9266E+09
Ru-106	1.6883E-01	5.0463E-08	2.8669E+17	6.2466E+09
Rh-105	2.5863E-01	3.0641E-10	1.7574E+15	9.5691E+09
Sb-127	5.2501E-01	1.9660E-09	9.3223E+15	1.9426E+10
Sb-129	1.2196E+00	2.1688E-10	1.0125E+15	4.5126E+10
Te-127	5.2558E-01	1.9915E-10	9.4435E+14	1.9447E+10
Te-127m	7.1106E-02	7.5383E-09	3.5745E+16	2.6309E+09
Te-129	1.3449E+00	6.4219E-11	2.9979E+14	4.9761E+10
Te-129m	2.3059E-01	7.6545E-09	3.5734E+16	8.5320E+09
Te-131m	6.7919E-01	8.5175E-10	3.9156E+15	2.5130E+10
Te-132	6.7747E+00	2.2315E-08	1.0181E+17	2.5066E+11
I-131	6.0293E+01	4.8633E-07	2.2357E+18	2.2308E+12
I-132	7.1746E+01	6.9507E-09	3.1711E+16	2.6546E+12
I-133	1.1827E+02	1.0440E-07	4.7273E+17	4.3759E+12
I-134	4.6379E+01	1.7385E-09	7.8133E+15	1.7160E+12
I-135	9.9601E+01	2.8361E-08	1.2652E+17	3.6852E+12
Xe-133	1.7031E+04	9.0985E-05	4.1197E+20	6.3014E+14
Xe-135	7.0038E+03	2.7426E-06	1.2234E+19	2.5914E+14
Cs-134	9.7934E+00	7.5693E-06	3.4017E+19	3.6236E+11
Cs-136	2.3865E+00	3.2562E-08	1.4418E+17	8.8299E+10
Cs-137	6.2183E+00	7.1490E-05	3.1425E+20	2.3008E+11
Ba-139	1.6125E+00	9.8579E-11	4.2709E+14	5.9661E+10
Ba-140	3.4231E+00	4.6758E-08	2.0113E+17	1.2665E+11
La-140	7.2235E-02	1.2996E-10	5.5902E+14	2.6727E+09
La-141	2.4500E-02	4.3321E-12	1.8502E+13	9.0648E+08
La-142	1.5401E-02	1.0759E-12	4.5626E+12	5.6983E+08
Ce-141	8.1118E-02	2.8469E-09	1.2159E+16	3.0014E+09
Ce-143	7.3314E-02	1.1040E-10	4.6492E+14	2.7126E+09
Ce-144	6.7529E-02	2.1172E-08	8.8543E+16	2.4986E+09
Pr-143	2.9440E-02	4.3720E-10	1.8412E+15	1.0893E+09
Nd-147	1.2910E-02	1.5958E-10	6.5376E+14	4.7767E+08
Np-239	9.4672E-01	4.0808E-09	1.0283E+16	3.5029E+10
Pu-238	3.7612E-04	2.1970E-08	5.5591E+16	1.3916E+07
Pu-239	2.2286E-05	3.5855E-07	9.0344E+17	8.2458E+05
Pu-240	2.2460E-05	9.8565E-08	2.4732E+17	8.3101E+05
Pu-241	1.3388E-02	1.2997E-07	3.2476E+17	4.9536E+08
Am-241	9.4795E-06	2.7619E-09	6.9016E+15	3.5074E+05
Cm-242	1.8620E-03	5.6181E-10	1.3980E+15	6.8894E+07
Cm-244	2.3935E-04	2.9585E-09	7.3019E+15	8.8561E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.1134E+21	3.9310E+17
Elemental I (atoms)	9.2954E+17	1.1737E+14
Organic I (atoms)	2.3395E+17	2.9539E+13
Aerosols (kg)	8.2298E-05	1.0391E-08

Dose Effective (Ci) I-131 (Thyroid)	8.3336E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0357E+02
Total I (Ci)	3.9629E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7649E+21
Elemental I (atoms)    3.7341E+16  5.0859E+17
Organic I (atoms)      0.0000E+00  1.2896E+17
Aerosols (kg)          4.4996E-04  6.2406E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1507E+21
Elemental I (atoms)    6.2099E+16  3.5272E+17
Organic I (atoms)      0.0000E+00  8.9178E+16
Aerosols (kg)          7.6741E-05  1.8922E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9793E+20
Elemental I (atoms)    1.2130E+16  6.8898E+16
Organic I (atoms)      0.0000E+00  1.5947E+16
Aerosols (kg)          7.9191E-06  9.7577E-07

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3295E+18
Elemental I (atoms)    9.1423E+14  1.1088E+14
Organic I (atoms)      2.4179E+14  1.0527E+13
Aerosols (kg)          7.9346E-08  1.1866E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.9892E+17
Elemental I (atoms)    0.0000E+00  3.8747E+14
Organic I (atoms)      0.0000E+00  6.8295E+13
Aerosols (kg)          0.0000E+00  3.7704E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.1732E+18  0.0000E+00
Elemental I (atoms)    4.0037E+14  0.0000E+00
Organic I (atoms)      5.1807E+13  0.0000E+00
Aerosols (kg)          4.1262E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4205E-02  4.4597E-01  7.6198E-02
Accumulated dose (rem)  6.8276E-01  8.5600E+00  1.0940E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3539E-03  1.9367E-02  3.3090E-03
Accumulated dose (rem)  6.1896E-02  8.1484E-01  1.0092E-01

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.1349E-03  5.0466E-01  3.2555E-02
```

Accumulated dose (rem) 7.0049E-02 1.0678E+01 5.4380E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.7392E+05	2.2275E+00	1.5781E+25	1.4531E+20
Kr-85m	9.8655E+06	1.1988E-03	8.4933E+21	1.8340E+21
Kr-87	7.7723E+06	2.7439E-04	1.8993E+21	1.9650E+21
Kr-88	2.1870E+07	1.7441E-03	1.1935E+22	4.3474E+21
Rb-86	1.1095E+02	1.3635E-06	9.5482E+18	4.5781E+17
Sr-89	4.5056E+03	1.5509E-04	1.0494E+21	1.4226E+19
Sr-90	6.2264E+02	4.5646E-03	3.0543E+22	1.9648E+18
Sr-91	4.7517E+03	1.3108E-06	8.6747E+18	1.6144E+19
Sr-92	3.3652E+03	2.6773E-07	1.7525E+18	1.3822E+19
Y-90	1.1137E+01	2.0471E-08	1.3697E+17	2.1691E+16
Y-91	5.8524E+01	2.3864E-06	1.5793E+19	1.8270E+17
Y-92	5.3669E+02	5.5776E-08	3.6510E+17	3.7097E+17
Y-93	5.9289E+01	1.7771E-08	1.1507E+17	2.0055E+17
Zr-95	7.6509E+01	3.5614E-06	2.2576E+19	2.4154E+17
Zr-97	6.9180E+01	3.6188E-08	2.2467E+17	2.2753E+17
Nb-95	7.7135E+01	1.9726E-06	1.2504E+19	2.4341E+17
Mo-99	1.0353E+03	2.1586E-06	1.3130E+19	3.3017E+18
Tc-99m	9.2852E+02	1.7658E-07	1.0742E+18	2.9276E+18
Ru-103	8.9374E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.4633E+02	6.6398E-08	3.8082E+17	1.6518E+18
Ru-106	3.9251E+02	1.1732E-04	6.6654E+20	1.2387E+18
Rh-105	5.9967E+02	7.1046E-07	4.0748E+18	1.8985E+18
Sb-127	1.2144E+03	4.5473E-06	2.1562E+19	3.8611E+18
Sb-129	2.5331E+03	4.5045E-07	2.1029E+18	9.4165E+18
Te-127	1.2190E+03	4.6191E-07	2.1903E+18	3.8553E+18
Te-127m	1.6533E+02	1.7528E-05	8.3115E+19	5.2168E+17
Te-129	2.8947E+03	1.3822E-07	6.4527E+17	1.0104E+19
Te-129m	5.3618E+02	1.7798E-05	8.3088E+19	1.6917E+18
Te-131m	1.5541E+03	1.9489E-06	8.9591E+18	5.0195E+18
Te-132	1.5655E+04	5.1566E-05	2.3526E+20	4.9844E+19
I-131	7.9948E+04	6.4487E-04	2.9645E+21	2.3011E+20
I-132	9.7785E+04	9.4733E-06	4.3220E+19	3.2465E+20
I-133	1.5290E+05	1.3497E-04	6.1114E+20	4.5653E+20
I-134	2.9515E+04	1.1064E-06	4.9722E+18	2.4691E+20
I-135	1.2115E+05	3.4498E-05	1.5389E+20	3.9539E+20
Xe-133	9.9990E+07	5.3419E-01	2.4188E+24	1.6671E+22
Xe-135	4.1390E+07	1.6208E-02	7.2301E+22	7.0604E+21
Cs-134	1.3760E+04	1.0635E-02	4.7794E+22	5.6668E+19
Cs-136	3.3465E+03	4.5661E-05	2.0219E+20	1.3821E+19
Cs-137	8.7369E+03	1.0045E-01	4.4153E+23	3.5981E+19
Ba-139	2.5993E+03	1.5891E-07	6.8847E+17	1.3939E+19
Ba-140	7.9464E+03	1.0854E-04	4.6690E+20	2.5133E+19
La-140	1.8188E+02	3.2723E-07	1.4076E+18	3.0186E+17
La-141	5.0307E+01	8.8955E-09	3.7993E+16	1.9013E+17
La-142	2.5854E+01	1.8061E-09	7.6595E+15	1.3077E+17
Ce-141	1.8857E+02	6.6179E-06	2.8265E+19	5.9532E+17
Ce-143	1.6799E+02	2.5297E-07	1.0653E+18	5.4146E+17
Ce-144	1.5700E+02	4.9223E-05	2.0585E+20	4.9547E+17
Pr-143	6.8471E+01	1.0168E-06	4.2821E+18	2.1562E+17
Nd-147	2.9962E+01	3.7036E-07	1.5173E+18	9.4799E+16
Np-239	2.1825E+03	9.4079E-06	2.3705E+19	6.9729E+18
Pu-238	8.7450E-01	5.1081E-05	1.2925E+20	2.7596E+15
Pu-239	5.1821E-02	8.3372E-04	2.1007E+21	1.6350E+14
Pu-240	5.2220E-02	2.2917E-04	5.7503E+20	1.6479E+14
Pu-241	3.1128E+01	3.0217E-04	7.5508E+20	9.8228E+16
Am-241	2.2042E-02	6.4222E-06	1.6048E+19	6.9542E+13
Cm-242	4.3287E+00	1.3061E-06	3.2501E+18	1.3662E+16
Cm-244	5.5650E-01	6.8787E-06	1.6977E+19	1.7561E+15

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8295E+25  0.0000E+00
Elemental I (atoms)    1.3136E+20  5.5506E+22
Organic I (atoms)      1.0734E+21  0.0000E+00
Aerosols (kg)          1.1827E-01  5.0251E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0711E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0156E-05
Total I (Ci)                                   4.8130E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5741E+21
Elemental I (atoms)    0.0000E+00  1.4570E+18
Organic I (atoms)      0.0000E+00  4.9964E+17
Aerosols (kg)          0.0000E+00  1.3294E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5741E+21
Elemental I (atoms)    0.0000E+00  1.4570E+18
Organic I (atoms)      0.0000E+00  4.9964E+17
Aerosols (kg)          0.0000E+00  1.3294E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7835E+21
Elemental I (atoms)    0.0000E+00  7.2737E+17
Organic I (atoms)      0.0000E+00  2.4957E+17
Aerosols (kg)          0.0000E+00  6.6364E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9840E+25
Elemental I (atoms)    0.0000E+00  5.2394E+21
Organic I (atoms)      0.0000E+00  1.9460E+21
Aerosols (kg)          0.0000E+00  4.7802E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9040E+25
Elemental I (atoms)    0.0000E+00  4.3557E+21
Organic I (atoms)      0.0000E+00  1.2924E+21
Aerosols (kg)          0.0000E+00  4.0219E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  1.6360E+02  4.1700E-04  2.9544E+21  6.0533E+12
Kr-85m                 2.0151E+03  2.4486E-07  1.7348E+18  7.4559E+13
Kr-87                  2.0120E+03  7.1032E-08  4.9168E+17  7.4445E+13
Kr-88                  4.7057E+03  3.7528E-07  2.5682E+18  1.7411E+14
Rb-86                  8.2932E-02  1.0192E-09  7.1371E+15  3.0685E+09
Sr-89                  2.0698E+00  7.1245E-08  4.8208E+17  7.6583E+10
Sr-90                  2.8593E-01  2.0961E-06  1.4026E+19  1.0579E+10
Sr-91                  2.2887E+00  6.3136E-10  4.1782E+15  8.4681E+10
```

Sr-92	1.8336E+00	1.4588E-10	9.5491E+14	6.7845E+10
Y-90	4.8767E-03	8.9635E-12	5.9977E+13	1.8044E+08
Y-91	2.6856E-02	1.0951E-09	7.2469E+15	9.9366E+08
Y-92	2.5176E-01	2.6164E-11	1.7127E+14	9.3152E+09
Y-93	2.8475E-02	8.5349E-12	5.5267E+13	1.0536E+09
Zr-95	3.5144E-02	1.6359E-09	1.0370E+16	1.3003E+09
Zr-97	3.2628E-02	1.7068E-11	1.0596E+14	1.2073E+09
Nb-95	3.5422E-02	9.0585E-10	5.7423E+15	1.3106E+09
Mo-99	4.7867E-01	9.9802E-10	6.0709E+15	1.7711E+10
Tc-99m	4.2678E-01	8.1163E-11	4.9371E+14	1.5791E+10
Ru-103	4.1061E-01	1.2723E-08	7.4387E+16	1.5193E+10
Ru-105	2.2723E-01	3.3804E-11	1.9388E+14	8.4075E+09
Ru-106	1.8026E-01	5.3879E-08	3.0610E+17	6.6695E+09
Rh-105	2.7608E-01	3.2709E-10	1.8760E+15	1.0215E+10
Sb-127	5.6037E-01	2.0984E-09	9.9500E+15	2.0734E+10
Sb-129	1.2934E+00	2.3000E-10	1.0737E+15	4.7855E+10
Te-127	5.6107E-01	2.1260E-10	1.0081E+15	2.0760E+10
Te-127m	7.5919E-02	8.0486E-09	3.8165E+16	2.8090E+09
Te-129	1.4292E+00	6.8243E-11	3.1858E+14	5.2879E+10
Te-129m	2.4620E-01	8.1727E-09	3.8153E+16	9.1096E+09
Te-131m	7.2444E-01	9.0850E-10	4.1764E+15	2.6804E+10
Te-132	7.2305E+00	2.3816E-08	1.0866E+17	2.6753E+11
I-131	6.3624E+01	5.1320E-07	2.3592E+18	2.3541E+12
I-132	7.5331E+01	7.2979E-09	3.3295E+16	2.7872E+12
I-133	1.2464E+02	1.1003E-07	4.9820E+17	4.6117E+12
I-134	4.7609E+01	1.7847E-09	8.0205E+15	1.7615E+12
I-135	1.0465E+02	2.9799E-08	1.3293E+17	3.8720E+12
Xe-133	1.8737E+04	1.0010E-04	4.5325E+20	6.9327E+14
Xe-135	7.6914E+03	3.0118E-06	1.3435E+19	2.8458E+14
Cs-134	1.0272E+01	7.9392E-06	3.5680E+19	3.8006E+11
Cs-136	2.5029E+00	3.4150E-08	1.5122E+17	9.2606E+10
Cs-137	6.5222E+00	7.4984E-05	3.2961E+20	2.4132E+11
Ba-139	1.6881E+00	1.0321E-10	4.4713E+14	6.2461E+10
Ba-140	3.6544E+00	4.9918E-08	2.1472E+17	1.3521E+11
La-140	7.8779E-02	1.4173E-10	6.0967E+14	2.9148E+09
La-141	2.5964E-02	4.5911E-12	1.9609E+13	9.6068E+08
La-142	1.6154E-02	1.1284E-12	4.7856E+12	5.9768E+08
Ce-141	8.6608E-02	3.0396E-09	1.2982E+16	3.2045E+09
Ce-143	7.8205E-02	1.1776E-10	4.9594E+14	2.8936E+09
Ce-144	7.2100E-02	2.2605E-08	9.4536E+16	2.6677E+09
Pr-143	3.1436E-02	4.6683E-10	1.9660E+15	1.1631E+09
Nd-147	1.3782E-02	1.7037E-10	6.9794E+14	5.0995E+08
Np-239	1.0103E+00	4.3548E-09	1.0973E+16	3.7380E+10
Pu-238	4.0158E-04	2.3457E-08	5.9354E+16	1.4858E+07
Pu-239	2.3795E-05	3.8282E-07	9.6460E+17	8.8041E+05
Pu-240	2.3980E-05	1.0524E-07	2.6406E+17	8.8726E+05
Pu-241	1.4294E-02	1.3876E-07	3.4674E+17	5.2889E+08
Am-241	1.0121E-05	2.9489E-09	7.3688E+15	3.7449E+05
Cm-242	1.9880E-03	5.9983E-10	1.4927E+15	7.3557E+07
Cm-244	2.5556E-04	3.1588E-09	7.7962E+15	9.4556E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s	
Noble gases (atoms)	3.4258E+21	4.1375E+17	
Elemental I (atoms)	9.7999E+17	1.1836E+14	
Organic I (atoms)	2.5415E+17	3.0694E+13	
Aerosols (kg)	8.6374E-05	1.0432E-08	
Dose Effective (Ci) I-131 (Thyroid)			8.7897E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.0917E+02
Total I (Ci)			4.1585E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.9269E+21
Elemental I (atoms)    3.9102E+16  5.3256E+17
Organic I (atoms)      0.0000E+00  1.3918E+17
Aerosols (kg)          4.7073E-04  6.5286E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2773E+21
Elemental I (atoms)    6.5896E+16  3.7429E+17
Organic I (atoms)      0.0000E+00  9.7532E+16
Aerosols (kg)          8.1310E-05  2.0049E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2182E+20
Elemental I (atoms)    1.3008E+16  7.3887E+16
Organic I (atoms)      0.0000E+00  1.7598E+16
Aerosols (kg)          8.4806E-06  1.0449E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6109E+18
Elemental I (atoms)    9.5928E+14  1.1134E+14
Organic I (atoms)      2.5983E+14  1.0709E+13
Aerosols (kg)          8.2980E-08  1.1902E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.6067E+17
Elemental I (atoms)    0.0000E+00  3.9745E+14
Organic I (atoms)      0.0000E+00  7.2293E+13
Aerosols (kg)          0.0000E+00  3.8510E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    2.4925E+18  0.0000E+00
Elemental I (atoms)    4.1534E+14  0.0000E+00
Organic I (atoms)      5.6105E+13  0.0000E+00
Aerosols (kg)          4.2573E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0599E+00  7.1428E+00  1.4029E+00
Accumulated dose (rem)  1.7427E+00  1.5703E+01  2.4969E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6030E-02  3.1019E-01  6.0923E-02
Accumulated dose (rem)  1.0793E-01  1.1250E+00  1.6185E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4535E-01  6.6034E+00  4.6512E-01
Accumulated dose (rem)  2.1540E-01  1.7282E+01  1.0089E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.3493E+05	2.1281E+00	1.5077E+25	3.3569E+20
Kr-85m	7.2454E+06	8.8041E-04	6.2376E+21	3.7249E+21
Kr-87	2.9397E+06	1.0378E-04	7.1837E+20	3.0713E+21
Kr-88	1.3798E+07	1.1004E-03	7.5304E+21	8.2507E+21
Rb-86	1.3532E+02	1.6631E-06	1.1646E+19	5.0724E+17
Sr-89	5.4844E+03	1.8878E-04	1.2774E+21	1.6228E+19
Sr-90	7.5864E+02	5.5616E-03	3.7214E+22	2.2416E+18
Sr-91	5.1142E+03	1.4108E-06	9.3364E+18	1.8143E+19
Sr-92	2.6544E+03	2.1118E-07	1.3823E+18	1.5061E+19
Y-90	2.7461E+01	5.0473E-08	3.3773E+17	2.8823E+16
Y-91	7.3212E+01	2.9853E-06	1.9756E+19	2.0902E+17
Y-92	1.4300E+03	1.4861E-07	9.7280E+17	7.5299E+17
Y-93	6.4284E+01	1.9268E-08	1.2477E+17	2.2558E+17
Zr-95	9.3149E+01	4.3359E-06	2.7486E+19	2.7554E+17
Zr-97	7.8613E+01	4.1123E-08	2.5531E+17	2.5734E+17
Nb-95	9.3980E+01	2.4034E-06	1.5235E+19	2.7769E+17
Mo-99	1.2391E+03	2.5835E-06	1.5715E+19	3.7582E+18
Tc-99m	1.1269E+03	2.1430E-07	1.3036E+18	3.3373E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2194E+18
Ru-105	4.1706E+02	6.2043E-08	3.5584E+17	1.8284E+18
Ru-106	4.7818E+02	1.4293E-04	8.1201E+20	1.4132E+18
Rh-105	7.2236E+02	8.5582E-07	4.9085E+18	2.1637E+18
Sb-127	1.4608E+03	5.4703E-06	2.5939E+19	4.3978E+18
Sb-129	2.3495E+03	4.1781E-07	1.9505E+18	1.0416E+19
Te-127	1.4761E+03	5.5934E-07	2.6523E+18	4.3937E+18
Te-127m	2.0147E+02	2.1359E-05	1.0128E+20	5.9517E+17
Te-129	2.8922E+03	1.3810E-07	6.4472E+17	1.1257E+19
Te-129m	6.5320E+02	2.1683E-05	1.0122E+20	1.9300E+18
Te-131m	1.8206E+03	2.2831E-06	1.0496E+19	5.6983E+18
Te-132	1.8789E+04	6.1889E-05	2.8235E+20	5.6756E+19
I-131	1.0030E+05	8.0904E-04	3.7192E+21	2.6178E+20
I-132	8.2163E+04	7.9599E-06	3.6315E+19	3.5665E+20
I-133	1.8235E+05	1.6097E-04	7.2887E+20	5.1571E+20
I-134	9.7141E+03	3.6414E-07	1.6365E+18	2.5364E+20
I-135	1.2794E+05	3.6432E-05	1.6252E+20	4.3976E+20
Xe-133	9.4631E+07	5.0555E-01	2.2891E+24	3.8351E+22
Xe-135	3.4673E+07	1.3577E-02	6.0566E+22	1.5505E+22
Cs-134	1.6826E+04	1.3005E-02	5.8444E+22	6.2805E+19
Cs-136	4.0772E+03	5.5631E-05	2.4634E+20	1.5311E+19
Cs-137	1.0684E+04	1.2284E-01	5.3995E+23	3.9878E+19
Ba-139	1.3470E+03	8.2350E-08	3.5678E+17	1.4747E+19
Ba-140	9.6447E+03	1.3174E-04	5.6670E+20	2.8659E+19
La-140	4.9992E+02	8.9942E-07	3.8689E+18	4.2652E+17
La-141	4.5416E+01	8.0306E-09	3.4299E+16	2.0974E+17
La-142	1.4668E+01	1.0247E-09	4.3456E+15	1.3910E+17
Ce-141	2.2948E+02	8.0539E-06	3.4398E+19	6.7909E+17
Ce-143	1.9751E+02	2.9741E-07	1.2525E+18	6.1495E+17
Ce-144	1.9125E+02	5.9964E-05	2.5077E+20	5.6525E+17
Pr-143	8.3861E+01	1.2454E-06	5.2446E+18	2.4612E+17
Nd-147	3.6343E+01	4.4924E-07	1.8404E+18	1.0809E+17
Np-239	2.6044E+03	1.1226E-05	2.8287E+19	7.9340E+18
Pu-238	1.0655E+00	6.2239E-05	1.5748E+20	3.1483E+15
Pu-239	6.3154E-02	1.0161E-03	2.5602E+21	1.8654E+14
Pu-240	6.3625E-02	2.7922E-04	7.0063E+20	1.8800E+14
Pu-241	3.7926E+01	3.6817E-04	9.1999E+20	1.1206E+17
Am-241	2.6868E-02	7.8284E-06	1.9562E+19	7.9342E+13
Cm-242	5.2725E+00	1.5909E-06	3.9588E+18	1.5586E+16
Cm-244	6.7805E-01	8.3811E-06	2.0685E+19	2.0035E+15

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    1.7442E+25  0.0000E+00
Elemental I (atoms)    5.7758E+20  5.5506E+22
Organic I (atoms)      1.0052E+21  0.0000E+00
Aerosols (kg)          1.4458E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.0131E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.0523E-05
Total I (Ci)                                   5.0247E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4171E+22
Elemental I (atoms)    0.0000E+00  1.6465E+18
Organic I (atoms)      0.0000E+00  8.8408E+17
Aerosols (kg)          0.0000E+00  1.4166E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4171E+22
Elemental I (atoms)    0.0000E+00  1.6465E+18
Organic I (atoms)      0.0000E+00  8.8408E+17
Aerosols (kg)          0.0000E+00  1.4166E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.0914E+21
Elemental I (atoms)    0.0000E+00  8.2239E+17
Organic I (atoms)      0.0000E+00  4.4234E+17
Aerosols (kg)          0.0000E+00  7.0739E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.9535E+25
Elemental I (atoms)    0.0000E+00  6.3797E+21
Organic I (atoms)      0.0000E+00  4.2593E+21
Aerosols (kg)          0.0000E+00  5.3052E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7935E+25
Elemental I (atoms)    0.0000E+00  5.9554E+21
Organic I (atoms)      0.0000E+00  3.5644E+21
Aerosols (kg)          0.0000E+00  5.1667E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  5.2777E+02  1.3452E-03  9.5307E+21  1.9528E+13
Kr-85m                 5.5606E+03  6.7569E-07  4.7872E+18  2.0574E+14
Kr-87                  3.9836E+03  1.4064E-07  9.7348E+17  1.4739E+14
Kr-88                  1.1940E+04  9.5221E-07  6.5163E+18  4.4178E+14
Rb-86                  1.3959E-01  1.7155E-09  1.2013E+16  5.1647E+09
Sr-89                  4.0409E+00  1.3909E-07  9.4115E+17  1.4951E+11
Sr-90                  5.5845E-01  4.0940E-06  2.7394E+19  2.0663E+10
Sr-91                  4.2429E+00  1.1705E-09  7.7458E+15  1.5699E+11
Sr-92                  3.0243E+00  2.4061E-10  1.5750E+15  1.1190E+11
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Y-90	1.3047E-02	2.3981E-11	1.6046E+14	4.8274E+08
Y-91	5.2946E-02	2.1589E-09	1.4287E+16	1.9590E+09
Y-92	7.1937E-01	7.4760E-11	4.8937E+14	2.6617E+10
Y-93	5.2948E-02	1.5870E-11	1.0277E+14	1.9591E+09
Zr-95	6.8618E-02	3.1941E-09	2.0248E+16	2.5389E+09
Zr-97	6.1862E-02	3.2360E-11	2.0090E+14	2.2889E+09
Nb-95	6.9182E-02	1.7692E-09	1.1215E+16	2.5597E+09
Mo-99	9.2772E-01	1.9343E-09	1.1766E+16	3.4325E+10
Tc-99m	8.3245E-01	1.5831E-10	9.6302E+14	3.0801E+10
Ru-103	8.0154E-01	2.4836E-08	1.4521E+17	2.9657E+10
Ru-105	3.9848E-01	5.9280E-11	3.3999E+14	1.4744E+10
Ru-106	3.5204E-01	1.0523E-07	5.9781E+17	1.3025E+10
Rh-105	5.3716E-01	6.3640E-10	3.6500E+15	1.9875E+10
Sb-127	1.0885E+00	4.0758E-09	1.9327E+16	4.0273E+10
Sb-129	2.2618E+00	4.0221E-10	1.8777E+15	8.3686E+10
Te-127	1.0930E+00	4.1415E-10	1.9638E+15	4.0440E+10
Te-127m	1.4829E-01	1.5721E-08	7.4546E+16	5.4867E+09
Te-129	2.5789E+00	1.2314E-10	5.7488E+14	9.5420E+10
Te-129m	4.8087E-01	1.5962E-08	7.4518E+16	1.7792E+10
Te-131m	1.3913E+00	1.7447E-09	8.0206E+15	5.1476E+10
Te-132	1.4030E+01	4.6214E-08	2.1084E+17	5.1912E+11
I-131	1.1761E+02	9.4866E-07	4.3610E+18	4.3516E+12
I-132	1.2387E+02	1.2001E-08	5.4750E+16	4.5833E+12
I-133	2.2523E+02	1.9882E-07	9.0026E+17	8.3335E+12
I-134	5.8296E+01	2.1853E-09	9.8208E+15	2.1569E+12
I-135	1.7955E+02	5.1127E-08	2.2807E+17	6.6434E+12
Xe-133	6.0154E+04	3.2136E-04	1.4551E+21	2.2257E+15
Xe-135	2.3468E+04	9.1896E-06	4.0993E+19	8.6831E+14
Cs-134	1.7307E+01	1.3377E-05	6.0118E+19	6.4038E+11
Cs-136	4.2108E+00	5.7454E-08	2.5441E+17	1.5580E+11
Cs-137	1.0990E+01	1.2634E-04	5.5537E+20	4.0662E+11
Ba-139	2.4478E+00	1.4965E-10	6.4835E+14	9.0569E+10
Ba-140	7.1256E+00	9.7333E-08	4.1868E+17	2.6365E+11
La-140	2.2459E-01	4.0407E-10	1.7381E+15	8.3100E+09
La-141	4.4947E-02	7.9477E-12	3.3945E+13	1.6630E+09
La-142	2.4018E-02	1.6778E-12	7.1156E+12	8.8868E+08
Ce-141	1.6908E-01	5.9341E-09	2.5345E+16	6.2561E+09
Ce-143	1.5042E-01	2.2650E-10	9.5387E+14	5.5654E+09
Ce-144	1.4081E-01	4.4148E-08	1.8463E+17	5.2099E+09
Pr-143	6.1510E-02	9.1344E-10	3.8468E+15	2.2759E+09
Nd-147	2.6866E-02	3.3210E-10	1.3605E+15	9.9406E+08
Np-239	1.9555E+00	8.4292E-09	2.1239E+16	7.2354E+10
Pu-238	7.8433E-04	4.5815E-08	1.1593E+17	2.9020E+07
Pu-239	4.6479E-05	7.4777E-07	1.8842E+18	1.7197E+06
Pu-240	4.6836E-05	2.0554E-07	5.1575E+17	1.7329E+06
Pu-241	2.7918E-02	2.7102E-07	6.7723E+17	1.0330E+09
Am-241	1.9771E-05	5.7606E-09	1.4395E+16	7.3154E+05
Cm-242	3.8823E-03	1.1714E-09	2.9150E+15	1.4365E+08
Cm-244	4.9913E-04	6.1695E-09	1.5227E+16	1.8468E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1039E+22	7.6660E+17	
Elemental I (atoms)	1.7746E+18	1.2324E+14	
Organic I (atoms)	7.2087E+17	5.0060E+13	
Aerosols (kg)	1.4635E-04	1.0163E-08	
Dose Effective (Ci) I-131 (Thyroid)			1.6109E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.9821E+02
Total I (Ci)			7.0456E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5487E+21

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Elemental I (atoms)    6.4570E+16  8.7944E+17
Organic I (atoms)      0.0000E+00  3.5875E+17
Aerosols (kg)          7.6268E-04  1.0578E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5596E+21
Elemental I (atoms)    1.2758E+17  7.2468E+17
Organic I (atoms)      0.0000E+00  3.0003E+17
Aerosols (kg)          1.5482E-04  3.8174E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3187E+20
Elemental I (atoms)    3.0354E+16  1.7241E+17
Organic I (atoms)      0.0000E+00  6.2945E+16
Aerosols (kg)          1.9529E-05  2.4063E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0467E+19
Elemental I (atoms)    1.6687E+15  1.1851E+14
Organic I (atoms)      6.7651E+14  1.4918E+13
Aerosols (kg)          1.3645E-07  1.2442E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3653E+18
Elemental I (atoms)    0.0000E+00  5.5470E+14
Organic I (atoms)      0.0000E+00  1.6466E+14
Aerosols (kg)          0.0000E+00  5.0362E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    9.5676E+18  0.0000E+00
Elemental I (atoms)    6.0885E+14  0.0000E+00
Organic I (atoms)      1.4116E+14  0.0000E+00
Aerosols (kg)          5.8369E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2562E+00  1.3190E+01  2.8310E+00
Accumulated dose (rem)  3.9990E+00  2.8893E+01  5.3278E+00

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.7980E-02  5.7279E-01  1.2294E-01
Accumulated dose (rem)  2.0591E-01  1.6978E+00  2.8479E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4043E-01  1.0990E+01  8.3118E-01
Accumulated dose (rem)  5.5583E-01  2.8272E+01  1.8401E+00
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	8.3370E+05	2.1250E+00	1.5055E+25	7.8018E+20
Kr-85m	3.8962E+06	4.7344E-04	3.3542E+21	6.6011E+21
Kr-87	3.3172E+05	1.1711E-05	8.1062E+19	3.7081E+21
Kr-88	5.1902E+06	4.1392E-04	2.8326E+21	1.2941E+22
Rb-86	1.6563E+02	2.0356E-06	1.4255E+19	5.9476E+17
Sr-89	6.7391E+03	2.3197E-04	1.5696E+21	1.9782E+19
Sr-90	9.3432E+02	6.8495E-03	4.5832E+22	2.7337E+18
Sr-91	4.7043E+03	1.2977E-06	8.5881E+18	2.1017E+19
Sr-92	1.1752E+03	9.3496E-08	6.1200E+17	1.6133E+19
Y-90	7.2020E+01	1.3237E-07	8.8575E+17	5.6607E+16
Y-91	9.4514E+01	3.8540E-06	2.5505E+19	2.5771E+17
Y-92	1.8552E+03	1.9280E-07	1.2621E+18	1.7686E+18
Y-93	6.0166E+01	1.8034E-08	1.1677E+17	2.6199E+17
Zr-95	1.1451E+02	5.3305E-06	3.3790E+19	3.3591E+17
Zr-97	8.2170E+01	4.2983E-08	2.6686E+17	3.0434E+17
Nb-95	1.1574E+02	2.9598E-06	1.8762E+19	3.3866E+17
Mo-99	1.4633E+03	3.0509E-06	1.8559E+19	4.5452E+18
Tc-99m	1.3630E+03	2.5921E-07	1.5768E+18	4.0584E+18
Ru-103	1.3355E+03	4.1381E-05	2.4194E+20	3.9239E+18
Ru-105	2.7508E+02	4.0922E-08	2.3471E+17	2.0289E+18
Ru-106	5.8873E+02	1.7597E-04	9.9975E+20	1.7233E+18
Rh-105	8.5128E+02	1.0086E-06	5.7845E+18	2.6226E+18
Sb-127	1.7460E+03	6.5380E-06	3.1002E+19	5.3313E+18
Sb-129	1.5231E+03	2.7084E-07	1.2644E+18	1.1537E+19
Te-127	1.7882E+03	6.7758E-07	3.2130E+18	5.3403E+18
Te-127m	2.4821E+02	2.6314E-05	1.2478E+20	7.2590E+17
Te-129	2.1795E+03	1.0407E-07	4.8584E+17	1.2700E+19
Te-129m	8.0333E+02	2.6666E-05	1.2449E+20	2.3535E+18
Te-131m	2.0442E+03	2.5636E-06	1.1785E+19	6.8259E+18
Te-132	2.2334E+04	7.3567E-05	3.3563E+20	6.8729E+19
I-131	1.1398E+05	9.1939E-04	4.2265E+21	3.2246E+20
I-132	4.4519E+04	4.3129E-06	1.9677E+19	3.9062E+20
I-133	1.8395E+05	1.6238E-04	7.3525E+20	6.1968E+20
I-134	4.7376E+02	1.7759E-08	7.9813E+16	2.5540E+20
I-135	9.6945E+04	2.7605E-05	1.2314E+20	5.0333E+20
Xe-133	9.2436E+07	4.9383E-01	2.2360E+24	8.8179E+22
Xe-135	2.5546E+07	1.0004E-02	4.4625E+22	3.1422E+22
Cs-134	2.0719E+04	1.6014E-02	7.1968E+22	7.3720E+19
Cs-136	4.9774E+03	6.7913E-05	3.0072E+20	1.7944E+19
Cs-137	1.3159E+04	1.5128E-01	6.6499E+23	4.6810E+19
Ba-139	2.2194E+02	1.3568E-08	5.8784E+16	1.5119E+19
Ba-140	1.1771E+04	1.6079E-04	6.9164E+20	3.4887E+19
La-140	1.3621E+03	2.4505E-06	1.0541E+19	9.4663E+17
La-141	2.7624E+01	4.8845E-09	2.0862E+16	2.3080E+17
La-142	2.9909E+00	2.0893E-10	8.8606E+14	1.4347E+17
Ce-141	2.8177E+02	9.8889E-06	4.2236E+19	8.2774E+17
Ce-143	2.2364E+02	3.3677E-07	1.4182E+18	7.3780E+17
Ce-144	2.3545E+02	7.3821E-05	3.0872E+20	6.8930E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	3.0082E+17
Nd-147	4.4291E+01	5.4749E-07	2.2429E+18	1.3154E+17
Np-239	3.0540E+03	1.3164E-05	3.3170E+19	9.5824E+18
Pu-238	1.3123E+00	7.6654E-05	1.9396E+20	3.8395E+15
Pu-239	7.7821E-02	1.2520E-03	3.1547E+21	2.2752E+14
Pu-240	7.8360E-02	3.4389E-04	8.6289E+20	2.2927E+14
Pu-241	4.6709E+01	4.5343E-04	1.1330E+21	1.3667E+17
Am-241	3.3125E-02	9.6513E-06	2.4117E+19	9.6781E+13
Cm-242	6.4890E+00	1.9579E-06	4.8722E+18	1.9005E+16
Cm-244	8.3506E-01	1.0322E-05	2.5475E+19	2.4434E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	1.7342E+25	0.0000E+00

```
Elemental I (atoms)    5.5105E+20  5.5506E+22
Organic I (atoms)      9.5631E+20  0.0000E+00
Aerosols (kg)          1.7802E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.4894E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.4246E-05
Total I (Ci)                                   4.3987E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9504E+22
Elemental I (atoms)    0.0000E+00  2.1444E+18
Organic I (atoms)      0.0000E+00  1.7483E+18
Aerosols (kg)          0.0000E+00  1.5715E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9504E+22
Elemental I (atoms)    0.0000E+00  2.1444E+18
Organic I (atoms)      0.0000E+00  1.7483E+18
Aerosols (kg)          0.0000E+00  1.5715E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4780E+22
Elemental I (atoms)    0.0000E+00  1.0720E+18
Organic I (atoms)      0.0000E+00  8.7567E+17
Aerosols (kg)          0.0000E+00  7.8503E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6180E+26
Elemental I (atoms)    0.0000E+00  9.3754E+21
Organic I (atoms)      0.0000E+00  9.4593E+21
Aerosols (kg)          0.0000E+00  6.2369E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5021E+26
Elemental I (atoms)    0.0000E+00  8.9533E+21
Organic I (atoms)      0.0000E+00  8.7651E+21
Aerosols (kg)          0.0000E+00  6.1323E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  1.8945E+03  4.8289E-03  3.4212E+22  7.0097E+13
Kr-85m                 1.4171E+04  1.7220E-06  1.2200E+19  5.2434E+14
Kr-87                  5.7676E+03  2.0362E-07  1.4094E+18  2.1340E+14
Kr-88                  2.5765E+04  2.0548E-06  1.4061E+19  9.5331E+14
Rb-86                  2.1509E-01  2.6435E-09  1.8511E+16  7.9584E+09
Sr-89                  6.7769E+00  2.3327E-07  1.5784E+18  2.5075E+11
Sr-90                  9.3730E-01  6.8714E-06  4.5978E+19  3.4680E+10
Sr-91                  6.4899E+00  1.7903E-09  1.1848E+16  2.4012E+11
Sr-92                  3.8955E+00  3.0992E-10  2.0287E+15  1.4413E+11
Y-90                   3.4498E-02  6.3408E-11  4.2428E+14  1.2764E+09
```

Y-91	9.0461E-02	3.6887E-09	2.4411E+16	3.3471E+09
Y-92	1.5483E+00	1.6091E-10	1.0533E+15	5.7289E+10
Y-93	8.1402E-02	2.4399E-11	1.5799E+14	3.0119E+09
Zr-95	1.1510E-01	5.3577E-09	3.3963E+16	4.2586E+09
Zr-97	9.8362E-02	5.1453E-11	3.1944E+14	3.6394E+09
Nb-95	1.1611E-01	2.9694E-09	1.8823E+16	4.2962E+09
Mo-99	1.5349E+00	3.2004E-09	1.9468E+16	5.6793E+10
Tc-99m	1.3911E+00	2.6456E-10	1.6093E+15	5.1472E+10
Ru-103	1.3440E+00	4.1642E-08	2.4347E+17	4.9726E+10
Ru-105	5.5814E-01	8.3032E-11	4.7622E+14	2.0651E+10
Ru-106	5.9080E-01	1.7659E-07	1.0033E+18	2.1860E+10
Rh-105	8.9142E-01	1.0561E-09	6.0572E+15	3.2982E+10
Sb-127	1.8082E+00	6.7710E-09	3.2107E+16	6.6904E+10
Sb-129	3.1551E+00	5.6106E-10	2.6192E+15	1.1674E+11
Te-127	1.8248E+00	6.9146E-10	3.2788E+15	6.7519E+10
Te-127m	2.4892E-01	2.6389E-08	1.2513E+17	9.2099E+09
Te-129	3.7464E+00	1.7889E-10	8.3513E+14	1.3862E+11
Te-129m	8.0690E-01	2.6785E-08	1.2504E+17	2.9855E+10
Te-131m	2.2636E+00	2.8387E-09	1.3050E+16	8.3754E+10
Te-132	2.3265E+01	7.6633E-08	3.4962E+17	8.6081E+11
I-131	2.2081E+02	1.7811E-06	8.1877E+18	8.1699E+12
I-132	1.7948E+02	1.7388E-08	7.9327E+16	6.6408E+12
I-133	4.0231E+02	3.5514E-07	1.6080E+18	1.4885E+13
I-134	6.1396E+01	2.3015E-09	1.0343E+16	2.2716E+12
I-135	2.8818E+02	8.2059E-08	3.6605E+17	1.0663E+13
Xe-133	2.1321E+05	1.1390E-03	5.1575E+21	7.8887E+15
Xe-135	7.1641E+04	2.8053E-05	1.2514E+20	2.6507E+15
Cs-134	2.6721E+01	2.0653E-05	9.2815E+19	9.8867E+11
Cs-136	6.4831E+00	8.8457E-08	3.9169E+17	2.3987E+11
Cs-137	1.6968E+01	1.9507E-04	8.5748E+20	6.2780E+11
Ba-139	2.7645E+00	1.6901E-10	7.3222E+14	1.0228E+11
Ba-140	1.1922E+01	1.6286E-07	7.0053E+17	4.4113E+11
La-140	6.2648E-01	1.1271E-09	4.8483E+15	2.3180E+10
La-141	6.1782E-02	1.0925E-11	4.6659E+13	2.2860E+09
La-142	2.7704E-02	1.9353E-12	8.2076E+12	1.0251E+09
Ce-141	2.8352E-01	9.9504E-09	4.2499E+16	1.0490E+10
Ce-143	2.4541E-01	3.6955E-10	1.5563E+15	9.0803E+09
Ce-144	2.3630E-01	7.4087E-08	3.0984E+17	8.7431E+09
Pr-143	1.0362E-01	1.5388E-09	6.4803E+15	3.8340E+09
Nd-147	4.4930E-02	5.5539E-10	2.2753E+15	1.6624E+09
Np-239	3.2278E+00	1.3913E-08	3.5058E+16	1.1943E+11
Pu-238	1.3164E-03	7.6896E-08	1.9457E+17	4.8708E+07
Pu-239	7.8025E-05	1.2553E-06	3.1630E+18	2.8869E+06
Pu-240	7.8609E-05	3.4498E-07	8.6563E+17	2.9086E+06
Pu-241	4.6858E-02	4.5488E-07	1.1367E+18	1.7338E+09
Am-241	3.3196E-05	9.6719E-09	2.4168E+16	1.2282E+06
Cm-242	6.5145E-03	1.9656E-09	4.8913E+15	2.4104E+08
Cm-244	8.3774E-04	1.0355E-08	2.5557E+16	3.0996E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.9522E+22	1.3723E+18	
Elemental I (atoms)	3.2035E+18	1.1123E+14	
Organic I (atoms)	2.3479E+18	8.1525E+13	
Aerosols (kg)	2.2675E-04	7.8732E-09	
Dose Effective (Ci) I-131 (Thyroid)			2.9725E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			3.5983E+02
Total I (Ci)			1.1522E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7784E+22
Elemental I (atoms)	1.0923E+17	1.4876E+18

```
Organic I (atoms)      0.0000E+00  1.0565E+18
Aerosols (kg)          1.1520E-03  1.5977E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7056E+22
Elemental I (atoms)    2.2917E+17  1.3017E+18
Organic I (atoms)      0.0000E+00  1.0135E+18
Aerosols (kg)          2.4962E-04  6.1550E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6853E+21
Elemental I (atoms)    7.3565E+16  4.1785E+17
Organic I (atoms)      0.0000E+00  2.8077E+17
Aerosols (kg)          4.4109E-05  5.4350E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6118E+19
Elemental I (atoms)    2.9441E+15  1.3139E+14
Organic I (atoms)      2.1288E+15  2.9587E+13
Aerosols (kg)          2.0812E-07  1.3166E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.9942E+18
Elemental I (atoms)    0.0000E+00  8.3741E+14
Organic I (atoms)      0.0000E+00  4.8656E+14
Aerosols (kg)          0.0000E+00  6.6248E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    3.8742E+19  0.0000E+00
Elemental I (atoms)    9.2064E+14  0.0000E+00
Organic I (atoms)      4.5648E+14  0.0000E+00
Aerosols (kg)          7.7483E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6799E+00  3.8239E+01  5.1435E+00
Accumulated dose (rem)  7.6788E+00  6.7131E+01  1.0471E+01

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0292E-01  5.5001E-01  1.2397E-01
Accumulated dose (rem)  3.0882E-01  2.2478E+00  4.0876E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7450E-01  1.3786E+01  8.0773E-01
Accumulated dose (rem)  8.3033E-01  4.2058E+01  2.6478E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.2923E+05	2.1136E+00	1.4974E+25	2.5520E+21
Kr-85m	3.2601E+05	3.9614E-05	2.8066E+20	9.6679E+21
Kr-87	5.3818E+01	1.9000E-09	1.3152E+16	3.7891E+21
Kr-88	1.0398E+05	8.2922E-06	5.6746E+19	1.5713E+22
Rb-86	1.6073E+02	1.9753E-06	1.3832E+19	9.4246E+17
Sr-89	6.6424E+03	2.2864E-04	1.5471E+21	3.4039E+19
Sr-90	9.2933E+02	6.8130E-03	4.5587E+22	4.7194E+18
Sr-91	1.4561E+03	4.0169E-07	2.6582E+18	2.6919E+19
Sr-92	1.9521E+01	1.5531E-09	1.0166E+16	1.6734E+19
Y-90	2.0870E+02	3.8360E-07	2.5667E+18	3.5220E+17
Y-91	1.0239E+02	4.1752E-06	2.7630E+19	4.6901E+17
Y-92	1.8990E+02	1.9735E-08	1.2918E+17	3.4994E+18
Y-93	1.9960E+01	5.9827E-09	3.8741E+16	3.3964E+17
Zr-95	1.1309E+02	5.2641E-06	3.3370E+19	5.7842E+17
Zr-97	4.2404E+01	2.2182E-08	1.3771E+17	4.3243E+17
Nb-95	1.1509E+02	2.9432E-06	1.8657E+19	5.8452E+17
Mo-99	1.2304E+03	2.5654E-06	1.5605E+19	7.4081E+18
Tc-99m	1.2320E+03	2.3429E-07	1.4252E+18	6.7213E+18
Ru-103	1.3129E+03	4.0681E-05	2.3785E+20	6.7457E+18
Ru-105	2.2509E+01	3.3486E-09	1.9206E+16	2.2439E+18
Ru-106	5.8489E+02	1.7482E-04	9.9322E+20	2.9738E+18
Rh-105	6.4442E+02	7.6348E-07	4.3789E+18	4.2161E+18
Sb-127	1.5403E+03	5.7678E-06	2.7350E+19	8.8281E+18
Sb-129	1.1628E+02	2.0677E-08	9.6527E+16	1.2702E+19
Te-127	1.6663E+03	6.3138E-07	2.9939E+18	8.9275E+18
Te-127m	2.4710E+02	2.6196E-05	1.2422E+20	1.2536E+18
Te-129	8.4628E+02	4.0410E-08	1.8865E+17	1.4996E+19
Te-129m	7.8980E+02	2.6217E-05	1.2239E+20	4.0515E+18
Te-131m	1.4050E+03	1.7620E-06	8.0999E+18	1.0459E+19
Te-132	1.9279E+04	6.3502E-05	2.8971E+20	1.1299E+20
I-131	1.0712E+05	8.6404E-04	3.9720E+21	5.5796E+20
I-132	2.3071E+04	2.2351E-06	1.0197E+19	4.4430E+20
I-133	1.0736E+05	9.4770E-05	4.2911E+20	9.2277E+20
I-134	1.5107E-03	5.6629E-14	2.5450E+11	2.5548E+20
I-135	1.8012E+04	5.1289E-06	2.2879E+19	6.0327E+20
Xe-133	8.4204E+07	4.4985E-01	2.0369E+24	2.7625E+23
Xe-135	7.5261E+06	2.9471E-03	1.3146E+22	6.2845E+22
Cs-134	2.0597E+04	1.5919E-02	7.1544E+22	1.1774E+20
Cs-136	4.7795E+03	6.5212E-05	2.8876E+20	2.8338E+19
Cs-137	1.3089E+04	1.5048E-01	6.6145E+23	7.4775E+19
Ba-139	7.0713E-02	4.3231E-12	1.8730E+13	1.5178E+19
Ba-140	1.1292E+04	1.5424E-04	6.6347E+20	5.9457E+19
La-140	3.8124E+03	6.8589E-06	2.9504E+19	6.4466E+18
La-141	1.6346E+00	2.8904E-10	1.2345E+15	2.5039E+17
La-142	2.2351E-03	1.5613E-13	6.6215E+11	1.4435E+17
Ce-141	2.7645E+02	9.7023E-06	4.1439E+19	1.4225E+18
Ce-143	1.5896E+02	2.3938E-07	1.0081E+18	1.1415E+18
Ce-144	2.3382E+02	7.3311E-05	3.0659E+20	1.1893E+18
Pr-143	1.0668E+02	1.5843E-06	6.6718E+18	5.2581E+17
Nd-147	4.2241E+01	5.2215E-07	2.1391E+18	2.2372E+17
Np-239	2.4966E+03	1.0762E-05	2.7116E+19	1.5476E+19
Pu-238	1.3054E+00	7.6253E-05	1.9294E+20	6.6286E+15
Pu-239	7.7554E-02	1.2477E-03	3.1439E+21	3.9307E+14
Pu-240	7.7946E-02	3.4207E-04	8.5833E+20	3.9581E+14
Pu-241	4.6457E+01	4.5099E-04	1.1269E+21	2.3593E+17
Am-241	3.3086E-02	9.6399E-06	2.4088E+19	1.6732E+14
Cm-242	6.4364E+00	1.9420E-06	4.8327E+18	3.2777E+16
Cm-244	8.3059E-01	1.0267E-05	2.5339E+19	4.2181E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.7025E+25	0.0000E+00
Elemental I (atoms)	4.7868E+20	5.5506E+22

```
Organic I (atoms)      8.3071E+20  0.0000E+00
Aerosols (kg)          1.7694E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6707E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1354E-05
Total I (Ci)                                   2.5556E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0102E+22
Elemental I (atoms)    0.0000E+00  3.9535E+18
Organic I (atoms)      0.0000E+00  4.8878E+18
Aerosols (kg)          0.0000E+00  2.1974E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0102E+22
Elemental I (atoms)    0.0000E+00  3.9535E+18
Organic I (atoms)      0.0000E+00  4.8878E+18
Aerosols (kg)          0.0000E+00  2.1974E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5165E+22
Elemental I (atoms)    0.0000E+00  1.9792E+18
Organic I (atoms)      0.0000E+00  2.4499E+18
Aerosols (kg)          0.0000E+00  1.0989E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2642E+26
Elemental I (atoms)    0.0000E+00  2.0261E+22
Organic I (atoms)      0.0000E+00  2.8350E+22
Aerosols (kg)          0.0000E+00  1.0003E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1490E+26
Elemental I (atoms)    0.0000E+00  1.9841E+22
Organic I (atoms)      0.0000E+00  2.7659E+22
Aerosols (kg)          0.0000E+00  9.8992E+00
```

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	8.1701E-03	2.5694E-10	2.6678E+15	3.0229E+08
Co-60	9.8119E-03	8.6802E-09	8.7122E+16	3.6304E+08
Kr-85	8.9597E+03	2.2837E-02	1.6180E+23	3.3151E+14
Kr-85m	2.5643E+04	3.1159E-06	2.2076E+19	9.4877E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.5924E+04	2.8649E-06	1.9606E+19	1.3292E+15
Rb-86	3.3595E-01	4.1288E-09	2.8912E+16	1.2430E+10
Sr-89	1.1589E+01	3.9891E-07	2.6992E+18	4.2881E+11
Sr-90	1.6074E+00	1.1784E-05	7.8849E+19	5.9474E+10
Sr-91	8.5478E+00	2.3580E-09	1.5605E+16	3.1627E+11
Sr-92	4.1268E+00	3.2832E-10	2.1491E+15	1.5269E+11
Y-90	1.3484E-01	2.4783E-10	1.6583E+15	4.9889E+09
Y-91	1.6177E-01	6.5965E-09	4.3654E+16	5.9855E+09

Y-92	2.1843E+00	2.2701E-10	1.4859E+15	8.0820E+10
Y-93	1.0842E-01	3.2496E-11	2.1042E+14	4.0114E+09
Zr-95	1.9695E-01	9.1676E-09	5.8114E+16	7.2870E+09
Zr-97	1.4233E-01	7.4453E-11	4.6223E+14	5.2662E+09
Nb-95	1.9911E-01	5.0919E-09	3.2278E+16	7.3671E+09
Mo-99	2.5049E+00	5.2227E-09	3.1769E+16	9.2681E+10
Tc-99m	2.3271E+00	4.4256E-10	2.6921E+15	8.6102E+10
Ru-103	2.2965E+00	7.1155E-08	4.1603E+17	8.4969E+10
Ru-105	6.3661E-01	9.4705E-11	5.4317E+14	2.3555E+10
Ru-106	1.0128E+00	3.0273E-07	1.7199E+18	3.7474E+10
Rh-105	1.4329E+00	1.6976E-09	9.7363E+15	5.3016E+10
Sb-127	2.9916E+00	1.1202E-08	5.3119E+16	1.1069E+11
Sb-129	3.5814E+00	6.3687E-10	2.9731E+15	1.3251E+11
Te-127	3.0679E+00	1.1625E-09	5.5123E+15	1.1351E+11
Te-127m	4.2701E-01	4.5270E-08	2.1466E+17	1.5799E+10
Te-129	4.6860E+00	2.2376E-10	1.0446E+15	1.7338E+11
Te-129m	1.3801E+00	4.5811E-08	2.1386E+17	5.1063E+10
Te-131m	3.5007E+00	4.3901E-09	2.0182E+16	1.2953E+11
Te-132	3.8250E+01	1.2599E-07	5.7481E+17	1.4153E+12
I-131	5.4373E+02	4.3858E-06	2.0162E+19	2.0118E+13
I-132	2.4723E+02	2.3952E-08	1.0927E+17	9.1476E+12
I-133	8.1519E+02	7.1962E-07	3.2584E+18	3.0162E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.2306E+02	1.2046E-07	5.3737E+17	1.5653E+13
Xe-133	9.6099E+05	5.1340E-03	2.3246E+22	3.5557E+16
Xe-135	1.9248E+05	7.5373E-05	3.3623E+20	7.1218E+15
Cs-134	4.2011E+01	3.2470E-05	1.4592E+20	1.5544E+12
Cs-136	1.0097E+01	1.3777E-07	6.1004E+17	3.7359E+11
Cs-137	2.6681E+01	3.0674E-04	1.3483E+21	9.8719E+11
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	2.0221E+01	2.7621E-07	1.1881E+18	7.4817E+11
La-140	2.4964E+00	4.4913E-09	1.9319E+16	9.2366E+10
La-141	6.9012E-02	1.2203E-11	5.2119E+13	2.5534E+09
La-142	2.8071E-02	1.9609E-12	8.3163E+12	1.0386E+09
Ce-141	4.8431E-01	1.6997E-08	7.2595E+16	1.7919E+10
Ce-143	3.8279E-01	5.7641E-10	2.4274E+15	1.4163E+10
Ce-144	4.0504E-01	1.2699E-07	5.3108E+17	1.4986E+10
Pr-143	1.7960E-01	2.6672E-09	1.1232E+16	6.6453E+09
Nd-147	7.6068E-02	9.4029E-10	3.8521E+15	2.8145E+09
Np-239	5.2261E+00	2.2527E-08	5.6762E+16	1.9337E+11
Pu-238	2.2577E-03	1.3188E-07	3.3369E+17	8.3533E+07
Pu-239	1.3389E-04	2.1541E-06	5.4277E+18	4.9540E+06
Pu-240	1.3481E-04	5.9162E-07	1.4845E+18	4.9880E+06
Pu-241	8.0357E-02	7.8007E-07	1.9492E+18	2.9732E+09
Am-241	5.7000E-05	1.6608E-08	4.1500E+16	2.1090E+06
Cm-242	1.1162E-02	3.3679E-09	8.3810E+15	4.1300E+08
Cm-244	1.4366E-03	1.7758E-08	4.3828E+16	5.3156E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.8542E+23	2.1461E+18	
Elemental I (atoms)	7.0414E+18	8.1498E+13	
Organic I (atoms)	9.8681E+18	1.1421E+14	
Aerosols (kg)	3.5789E-04	4.1423E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.9320E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			8.0678E+02
Total I (Ci)			2.0907E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7076E+22
Elemental I (atoms)	2.8011E+17	3.1926E+18
Organic I (atoms)	0.0000E+00	4.1297E+18

```
Aerosols (kg)          1.8136E-03  2.5153E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6943E+22
Elemental I (atoms)    5.7558E+17  2.7200E+18
Organic I (atoms)      0.0000E+00  4.1166E+18
Aerosols (kg)          3.8512E-04  9.4959E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1493E+22
Elemental I (atoms)    2.5365E+17  1.1552E+18
Organic I (atoms)      0.0000E+00  1.6707E+18
Aerosols (kg)          9.2600E-05  1.1410E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1801E+19
Elemental I (atoms)    4.4019E+15  1.4611E+14
Organic I (atoms)      4.9859E+15  5.8447E+13
Aerosols (kg)          2.5764E-07  1.3666E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0214E+19
Elemental I (atoms)    0.0000E+00  1.1605E+15
Organic I (atoms)      0.0000E+00  1.1199E+15
Aerosols (kg)          0.0000E+00  7.7226E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.0928E+20  0.0000E+00
Elemental I (atoms)    1.2851E+15  0.0000E+00
Organic I (atoms)      1.1463E+15  0.0000E+00
Aerosols (kg)          9.0514E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0511E+00  2.2935E+01  1.9330E+00
Accumulated dose (rem)  8.7299E+00  9.0066E+01  1.2404E+01

Low Population Zone Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1306E-02  1.6212E-01  1.7540E-02
Accumulated dose (rem)  3.2013E-01  2.4099E+00  4.2630E-01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1058E-02  3.2742E+00  1.5678E-01
Accumulated dose (rem)  8.6139E-01  4.5332E+01  2.8046E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.2581E+05	2.1049E+00	1.4913E+25	5.1972E+21
Kr-85m	7.9223E+03	9.6267E-07	6.8204E+18	9.9414E+21
Kr-87	1.1166E-04	3.9422E-15	2.7288E+10	3.7891E+21
Kr-88	2.9601E+02	2.3607E-08	1.6155E+17	1.5769E+22
Rb-86	1.5426E+02	1.8958E-06	1.3275E+19	1.4458E+18
Sr-89	6.5260E+03	2.2463E-04	1.5200E+21	5.5086E+19
Sr-90	9.2561E+02	6.7857E-03	4.5405E+22	7.6842E+18
Sr-91	2.5176E+02	6.9450E-08	4.5960E+17	2.9113E+19
Sr-92	4.1960E-02	3.3383E-12	2.1852E+13	1.6744E+19
Y-90	3.7332E+02	6.8617E-07	4.5913E+18	1.2782E+18
Y-91	1.0417E+02	4.2476E-06	2.8110E+19	8.0045E+17
Y-92	2.2090E+00	2.2957E-10	1.5027E+15	3.6371E+18
Y-93	3.8294E+00	1.1478E-09	7.4325E+15	3.7088E+17
Zr-95	1.1143E+02	5.1869E-06	3.2880E+19	9.3725E+17
Zr-97	1.5783E+01	8.2562E-09	5.1258E+16	5.1854E+17
Nb-95	1.1456E+02	2.9298E-06	1.8572E+19	9.5143E+17
Mo-99	9.5249E+02	1.9860E-06	1.2080E+19	1.0878E+19
Tc-99m	9.7468E+02	1.8536E-07	1.1276E+18	1.0067E+19
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.2901E-01	7.8698E-11	4.5136E+14	2.2627E+18
Ru-106	5.8148E+02	1.7381E-04	9.8744E+20	4.8380E+18
Rh-105	4.0295E+02	4.7739E-07	2.7380E+18	5.8617E+18
Sb-127	1.2815E+03	4.7985E-06	2.2754E+19	1.3325E+19
Sb-129	2.4625E+00	4.3791E-10	2.0443E+15	1.2796E+19
Te-127	1.4561E+03	5.5172E-07	2.6162E+18	1.3754E+19
Te-127m	2.4616E+02	2.6097E-05	1.2375E+20	2.0419E+18
Te-129	6.6995E+02	3.1990E-08	1.4934E+17	1.6729E+19
Te-129m	7.7075E+02	2.5585E-05	1.1944E+20	6.5457E+18
Te-131m	8.0379E+02	1.0080E-06	4.6338E+18	1.3900E+19
Te-132	1.5523E+04	5.1131E-05	2.3327E+20	1.6839E+20
I-131	9.7953E+04	7.9010E-04	3.6321E+21	8.8551E+20
I-132	1.8528E+04	1.7950E-06	8.1892E+18	5.0167E+20
I-133	4.8059E+04	4.2424E-05	1.9209E+20	1.1586E+21
I-135	1.4482E+03	4.1239E-07	1.8396E+18	6.2427E+20
Xe-133	7.3498E+07	3.9266E-01	1.7779E+24	5.2792E+23
Xe-135	1.2058E+06	4.7216E-04	2.1063E+21	7.3879E+22
Cs-134	2.0497E+04	1.5842E-02	7.1196E+22	1.8342E+20
Cs-136	4.5153E+03	6.1608E-05	2.7280E+20	4.3190E+19
Cs-137	1.3036E+04	1.4987E-01	6.5880E+23	1.1653E+20
Ba-139	4.0379E-07	2.4686E-17	1.0695E+08	1.5178E+19
Ba-140	1.0652E+04	1.4550E-04	6.2586E+20	9.4519E+19
La-140	6.2416E+03	1.1229E-05	4.8304E+19	2.2553E+19
La-141	2.3624E-02	4.1772E-12	1.7841E+13	2.5161E+17
La-142	4.5843E-08	3.2024E-18	1.3581E+07	1.4435E+17
Ce-141	2.6956E+02	9.4604E-06	4.0406E+19	2.2952E+18
Ce-143	9.5643E+01	1.4402E-07	6.0652E+17	1.5399E+18
Ce-144	2.3234E+02	7.2844E-05	3.0464E+20	1.9344E+18
Pr-143	1.0716E+02	1.5913E-06	6.7016E+18	8.6803E+17
Nd-147	3.9501E+01	4.8828E-07	2.0003E+18	3.5432E+17
Np-239	1.8527E+03	7.9861E-06	2.0123E+19	2.2377E+19
Pu-238	1.3004E+00	7.5958E-05	1.9220E+20	1.0793E+16
Pu-239	7.7419E-02	1.2455E-03	3.1384E+21	6.4076E+14
Pu-240	7.7639E-02	3.4072E-04	8.5494E+20	6.4448E+14
Pu-241	4.6268E+01	4.4915E-04	1.1223E+21	3.8414E+17
Am-241	3.3158E-02	9.6610E-06	2.4141E+19	2.7318E+14
Cm-242	6.3838E+00	1.9261E-06	4.7932E+18	5.3267E+16
Cm-244	8.2723E-01	1.0225E-05	2.5236E+19	6.8677E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6693E+25	0.0000E+00
Elemental I (atoms)	4.1391E+20	5.5506E+22
Organic I (atoms)	7.1832E+20	0.0000E+00
Aerosols (kg)	1.7610E-01	5.0845E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         3.9442E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.1481E-05
Total I (Ci)                                   1.6599E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7399E+22
Elemental I (atoms)	0.0000E+00	2.5663E+18
Organic I (atoms)	0.0000E+00	3.4689E+18
Aerosols (kg)	0.0000E+00	1.3317E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0631E+27
Elemental I (atoms)	0.0000E+00	3.4433E+22
Organic I (atoms)	0.0000E+00	5.2945E+22
Aerosols (kg)	0.0000E+00	1.5622E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0516E+27
Elemental I (atoms)	0.0000E+00	3.4014E+22
Organic I (atoms)	0.0000E+00	5.2256E+22
Aerosols (kg)	0.0000E+00	1.5519E+01

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	1.0325E-02	3.2471E-10	3.3715E+15	3.8203E+08
Co-60	1.2429E-02	1.0995E-08	1.1036E+17	4.5986E+08
Kr-85	1.4438E+04	3.6801E-02	2.6073E+23	5.3422E+14
Kr-85m	2.6166E+04	3.1795E-06	2.2526E+19	9.6812E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6027E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	4.0874E-01	5.0234E-09	3.5177E+16	1.5124E+10
Sr-89	1.4633E+01	5.0367E-07	3.4080E+18	5.4141E+11
Sr-90	2.0362E+00	1.4927E-05	9.9884E+19	7.5340E+10
Sr-91	8.8538E+00	2.4424E-09	1.6163E+16	3.2759E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	2.7266E-01	5.0116E-10	3.3534E+15	1.0089E+10
Y-91	2.0976E-01	8.5535E-09	5.6605E+16	7.7613E+09
Y-92	2.2027E+00	2.2891E-10	1.4984E+15	8.1499E+10
Y-93	1.1278E-01	3.3805E-11	2.1890E+14	4.1730E+09

Zr-95	2.4884E-01	1.1583E-08	7.3426E+16	9.2070E+09
Zr-97	1.5453E-01	8.0837E-11	5.0187E+14	5.7178E+09
Nb-95	2.5220E-01	6.4496E-09	4.0885E+16	9.3314E+09
Mo-99	3.0042E+00	6.2637E-09	3.8102E+16	1.1115E+11
Tc-99m	2.8346E+00	5.3908E-10	3.2792E+15	1.0488E+11
Ru-103	2.8968E+00	8.9756E-08	5.2478E+17	1.0718E+11
Ru-105	6.3912E-01	9.5078E-11	5.4531E+14	2.3647E+10
Ru-106	1.2824E+00	3.8332E-07	2.1777E+18	4.7450E+10
Rh-105	1.6686E+00	1.9769E-09	1.1338E+16	6.1740E+10
Sb-127	3.6397E+00	1.3629E-08	6.4627E+16	1.3467E+11
Sb-129	3.5940E+00	6.3911E-10	2.9836E+15	1.3298E+11
Te-127	3.7884E+00	1.4355E-09	6.8068E+15	1.4017E+11
Te-127m	5.4105E-01	5.7360E-08	2.7199E+17	2.0019E+10
Te-129	5.0155E+00	2.3949E-10	1.1180E+15	1.8557E+11
Te-129m	1.7407E+00	5.7781E-08	2.6974E+17	6.4405E+10
Te-131m	3.9928E+00	5.0073E-09	2.3019E+16	1.4773E+11
Te-132	4.6229E+01	1.5227E-07	6.9471E+17	1.7105E+12
I-131	7.5574E+02	6.0959E-06	2.8023E+19	2.7962E+13
I-132	2.7800E+02	2.6932E-08	1.2287E+17	1.0286E+13
I-133	9.6559E+02	8.5238E-07	3.8595E+18	3.5727E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3598E+02	1.2414E-07	5.5379E+17	1.6131E+13
Xe-133	1.4808E+06	7.9109E-03	3.5820E+22	5.4789E+16
Xe-135	2.1446E+05	8.3978E-05	3.7461E+20	7.9349E+15
Cs-134	5.1516E+01	3.9817E-05	1.7894E+20	1.9061E+12
Cs-136	1.2244E+01	1.6706E-07	7.3976E+17	4.5304E+11
Cs-137	3.2724E+01	3.7621E-04	1.6537E+21	1.2108E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	2.5286E+01	3.4540E-07	1.4857E+18	9.3559E+11
La-140	4.8929E+00	8.8030E-09	3.7866E+16	1.8104E+11
La-141	6.9173E-02	1.2231E-11	5.2241E+13	2.5594E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	6.1047E-01	2.1425E-08	9.1506E+16	2.2587E+10
Ce-143	4.3982E-01	6.6229E-10	2.7891E+15	1.6273E+10
Ce-144	5.1280E-01	1.6078E-07	6.7238E+17	1.8973E+10
Pr-143	2.2917E-01	3.4033E-09	1.4332E+16	8.4794E+09
Nd-147	9.4933E-02	1.1735E-09	4.8074E+15	3.5125E+09
Np-239	6.2181E+00	2.6803E-08	6.7537E+16	2.3007E+11
Pu-238	2.8601E-03	1.6706E-07	4.2272E+17	1.0582E+08
Pu-239	1.6972E-04	2.7305E-06	6.8802E+18	6.2796E+06
Pu-240	1.7078E-04	7.4946E-07	1.8806E+18	6.3188E+06
Pu-241	1.0179E-01	9.8816E-07	2.4692E+18	3.7663E+09
Am-241	7.2316E-05	2.1070E-08	5.2650E+16	2.6757E+06
Cm-242	1.4126E-02	4.2620E-09	1.0606E+16	5.2265E+08
Cm-244	1.8199E-03	2.2495E-08	5.5519E+16	6.7336E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s	
Noble gases (atoms)	2.9697E+23	1.7186E+18	
Elemental I (atoms)	9.1164E+18	5.2757E+13	
Organic I (atoms)	1.4950E+19	8.6516E+13	
Aerosols (kg)	4.3955E-04	2.5437E-09	
Dose Effective (Ci) I-131 (Thyroid)			9.3079E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.0612E+03
Total I (Ci)			2.4968E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2179E+23
Elemental I (atoms)	4.6549E+17	4.1887E+18
Organic I (atoms)	0.0000E+00	6.1788E+18
Aerosols (kg)	2.2258E-03	3.0871E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2167E+23
Elemental I (atoms)	9.2055E+17	3.4444E+18
Organic I (atoms)	0.0000E+00	6.1653E+18
Aerosols (kg)	4.7250E-04	1.1650E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.3679E+22
Elemental I (atoms)	4.2870E+17	1.5227E+18
Organic I (atoms)	0.0000E+00	2.6868E+18
Aerosols (kg)	1.1649E-04	1.4353E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1987E+20
Elemental I (atoms)	4.9217E+15	1.5136E+14
Organic I (atoms)	6.2589E+15	7.1306E+13
Aerosols (kg)	2.7797E-07	1.3872E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6373E+19
Elemental I (atoms)	0.0000E+00	1.2758E+15
Organic I (atoms)	0.0000E+00	1.4021E+15
Aerosols (kg)	0.0000E+00	8.1732E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.4518E+20	0.0000E+00
Elemental I (atoms)	1.4134E+15	0.0000E+00
Organic I (atoms)	1.4566E+15	0.0000E+00
Aerosols (kg)	9.5459E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.1430E-01	1.8250E+01	1.4486E+00
Accumulated dose (rem)	9.4442E+00	1.0832E+02	1.3853E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.6837E-03	1.2901E-01	1.2874E-02
Accumulated dose (rem)	3.2781E-01	2.5390E+00	4.3917E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9442E-02	2.4363E+00	1.1739E-01
Accumulated dose (rem)	8.8083E-01	4.7769E+01	2.9220E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.2239E+05	2.0961E+00	1.4851E+25	7.8315E+21
Kr-85m	1.9251E+02	2.3393E-08	1.6574E+17	9.9480E+21
Kr-87	2.3168E-10	8.1791E-21	5.6616E+04	3.7891E+21
Kr-88	8.4268E-01	6.7204E-11	4.5990E+14	1.5769E+22
Rb-86	1.4804E+02	1.8194E-06	1.2740E+19	1.9289E+18
Sr-89	6.4115E+03	2.2069E-04	1.4933E+21	7.5763E+19
Sr-90	9.2187E+02	6.7582E-03	4.5221E+22	1.0637E+19
Sr-91	4.3527E+01	1.2007E-08	7.9462E+16	2.9492E+19
Sr-92	9.0191E-05	7.1754E-15	4.6969E+10	1.6744E+19
Y-90	4.9889E+02	9.1696E-07	6.1357E+18	2.6652E+18
Y-91	1.0312E+02	4.2047E-06	2.7826E+19	1.1320E+18
Y-92	2.1073E-02	2.1900E-12	1.4336E+13	3.6386E+18
Y-93	7.3466E-01	2.2020E-10	1.4259E+15	3.7687E+17
Zr-95	1.0979E+02	5.1106E-06	3.2396E+19	1.2908E+18
Zr-97	5.8745E+00	3.0729E-09	1.9078E+16	5.5059E+17
Nb-95	1.1401E+02	2.9157E-06	1.8483E+19	1.3166E+18
Mo-99	7.3734E+02	1.5374E-06	9.3517E+18	1.3564E+19
Tc-99m	7.5583E+02	1.4374E-07	8.7438E+17	1.2680E+19
Ru-103	1.2574E+03	3.8960E-05	2.2779E+20	1.4961E+19
Ru-105	1.2432E-02	1.8494E-12	1.0607E+13	2.2631E+18
Ru-106	5.7808E+02	1.7279E-04	9.8167E+20	6.6913E+18
Rh-105	2.5077E+02	2.9710E-07	1.7040E+18	6.8874E+18
Sb-127	1.0661E+03	3.9920E-06	1.8929E+19	1.7067E+19
Sb-129	5.2151E-02	9.2740E-12	4.3294E+13	1.2798E+19
Te-127	1.2571E+03	4.7633E-07	2.2587E+18	1.7939E+19
Te-127m	2.4496E+02	2.5970E-05	1.2315E+20	2.8269E+18
Te-129	6.5035E+02	3.1054E-08	1.4497E+17	1.8316E+19
Te-129m	7.5202E+02	2.4963E-05	1.1654E+20	8.9794E+18
Te-131m	4.5982E+02	5.7664E-07	2.6509E+18	1.5869E+19
Te-132	1.2498E+04	4.1169E-05	1.8782E+20	2.1301E+20
I-131	8.9544E+04	7.2228E-04	3.3203E+21	1.1850E+21
I-132	1.4918E+04	1.4453E-06	6.5936E+18	5.4785E+20
I-133	2.1513E+04	1.8991E-05	8.5989E+19	1.2642E+21
I-135	1.1644E+02	3.3157E-08	1.4791E+17	6.2596E+20
Xe-133	6.4147E+07	3.4270E-01	1.5517E+24	7.4757E+23
Xe-135	1.9291E+05	7.5540E-05	3.3697E+20	7.5645E+22
Cs-134	2.0397E+04	1.5765E-02	7.0848E+22	2.4878E+20
Cs-136	4.2656E+03	5.8200E-05	2.5771E+20	5.7220E+19
Cs-137	1.2984E+04	1.4927E-01	6.5614E+23	1.5812E+20
Ba-140	1.0048E+04	1.3724E-04	5.9036E+20	1.2759E+20
La-140	7.6309E+03	1.3729E-05	5.9055E+19	4.4660E+19
La-141	3.4140E-04	6.0368E-14	2.5783E+11	2.5162E+17
Ce-141	2.6282E+02	9.2240E-06	3.9396E+19	3.1460E+18
Ce-143	5.7543E+01	8.6651E-08	3.6491E+17	1.7796E+18
Ce-144	2.3085E+02	7.2378E-05	3.0269E+20	2.6746E+18
Pr-143	1.0514E+02	1.5613E-06	6.5752E+18	1.2076E+18
Nd-147	3.6937E+01	4.5658E-07	1.8705E+18	4.7644E+17
Np-239	1.3748E+03	5.9262E-06	1.4932E+19	2.7497E+19
Pu-238	1.2953E+00	7.5663E-05	1.9145E+20	1.4942E+16
Pu-239	7.7237E-02	1.2426E-03	3.1311E+21	8.8795E+14
Pu-240	7.7330E-02	3.3937E-04	8.5155E+20	8.9216E+14
Pu-241	4.6078E+01	4.4731E-04	1.1177E+21	5.3173E+17
Am-241	3.3229E-02	9.6815E-06	2.4192E+19	3.7928E+14
Cm-242	6.3314E+00	1.9103E-06	4.7538E+18	7.3589E+16
Cm-244	8.2385E-01	1.0183E-05	2.5133E+19	9.5066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6403E+25	0.0000E+00	
Elemental I (atoms)	3.6845E+20	5.5506E+22	
Organic I (atoms)	6.3941E+20	0.0000E+00	
Aerosols (kg)	1.7529E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4652E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5628E-05
Total I (Ci)			1.2609E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9224E+22
Elemental I (atoms)	0.0000E+00	3.0820E+18
Organic I (atoms)	0.0000E+00	4.3638E+18
Aerosols (kg)	0.0000E+00	1.5634E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5899E+27
Elemental I (atoms)	0.0000E+00	4.6881E+22
Organic I (atoms)	0.0000E+00	7.4548E+22
Aerosols (kg)	0.0000E+00	2.1215E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5785E+27
Elemental I (atoms)	0.0000E+00	4.6463E+22
Organic I (atoms)	0.0000E+00	7.3860E+22
Aerosols (kg)	0.0000E+00	2.1112E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	1.9904E+04	5.0733E-02	3.5944E+23	7.3646E+14
Kr-85m	2.6178E+04	3.1810E-06	2.2537E+19	9.6860E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	4.7845E-01	5.8802E-09	4.1176E+16	1.7703E+10
Sr-89	1.7618E+01	6.0641E-07	4.1033E+18	6.5185E+11
Sr-90	2.4626E+00	1.8053E-05	1.2080E+20	9.1117E+10
Sr-91	8.9066E+00	2.4570E-09	1.6260E+16	3.2955E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	4.7650E-01	8.7582E-10	5.8603E+15	1.7631E+10
Y-91	2.5764E-01	1.0506E-08	6.9523E+16	9.5326E+09
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1362E-01	3.4055E-11	2.2052E+14	4.2039E+09
Zr-95	2.9988E-01	1.3959E-08	8.8488E+16	1.1096E+10
Zr-97	1.5907E-01	8.3209E-11	5.1659E+14	5.8855E+09
Nb-95	3.0496E-01	7.7987E-09	4.9437E+16	1.1283E+10
Mo-99	3.3900E+00	7.0683E-09	4.2996E+16	1.2543E+11

Tc-99m	3.2299E+00	6.1426E-10	3.7366E+15	1.1951E+11
Ru-103	3.4833E+00	1.0793E-07	6.3103E+17	1.2888E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	1.5500E+00	4.6331E-07	2.6322E+18	5.7352E+10
Rh-105	1.8153E+00	2.1507E-09	1.2335E+16	6.7167E+10
Sb-127	4.1779E+00	1.5645E-08	7.4184E+16	1.5458E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	4.4117E+00	1.6717E-09	7.9268E+15	1.6323E+11
Te-127m	6.5441E-01	6.9378E-08	3.2898E+17	2.4213E+10
Te-129	5.3197E+00	2.5401E-10	1.1858E+15	1.9683E+11
Te-129m	2.0920E+00	6.9442E-08	3.2418E+17	7.7403E+10
Te-131m	4.2738E+00	5.3597E-09	2.4639E+16	1.5813E+11
Te-132	5.2643E+01	1.7340E-07	7.9109E+17	1.9478E+12
I-131	9.3452E+02	7.5380E-06	3.4652E+19	3.4577E+13
I-132	3.0102E+02	2.9163E-08	1.3305E+17	1.1138E+13
I-133	1.0277E+03	9.0721E-07	4.1078E+18	3.8025E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3693E+02	1.2442E-07	5.5501E+17	1.6167E+13
Xe-133	1.9353E+06	1.0339E-02	4.6814E+22	7.1605E+16
Xe-135	2.1798E+05	8.5359E-05	3.8077E+20	8.0654E+15
Cs-134	6.0955E+01	4.7112E-05	2.1173E+20	2.2553E+12
Cs-136	1.4268E+01	1.9468E-07	8.6204E+17	5.2792E+11
Cs-137	3.8730E+01	4.4526E-04	1.9572E+21	1.4330E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	3.0057E+01	4.1057E-07	1.7661E+18	1.1121E+12
La-140	8.1402E+00	1.4645E-08	6.2996E+16	3.0119E+11
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	7.3328E-01	2.5735E-08	1.0992E+17	2.7131E+10
Ce-143	4.7407E-01	7.1387E-10	3.0063E+15	1.7541E+10
Ce-144	6.1969E-01	1.9429E-07	8.1254E+17	2.2929E+10
Pr-143	2.7823E-01	4.1317E-09	1.7400E+16	1.0294E+10
Nd-147	1.1255E-01	1.3912E-09	5.6993E+15	4.1642E+09
Np-239	6.9531E+00	2.9971E-08	7.5519E+16	2.5726E+11
Pu-238	3.4591E-03	2.0206E-07	5.1127E+17	1.2799E+08
Pu-239	2.0542E-04	3.3048E-06	8.3273E+18	7.6004E+06
Pu-240	2.0655E-04	9.0643E-07	2.2744E+18	7.6422E+06
Pu-241	1.2311E-01	1.1951E-06	2.9862E+18	4.5549E+09
Am-241	8.7640E-05	2.5535E-08	6.3807E+16	3.2427E+06
Cm-242	1.7060E-02	5.1474E-09	1.2809E+16	6.3122E+08
Cm-244	2.2010E-03	2.7205E-08	6.7144E+16	8.1435E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s	
Noble gases (atoms)	4.0667E+23	1.5690E+18	
Elemental I (atoms)	1.0356E+19	3.9953E+13	
Organic I (atoms)	1.9427E+19	7.4950E+13	
Aerosols (kg)	5.2066E-04	2.0087E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.1201E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.2575E+03
Total I (Ci)			2.7617E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6574E+23
Elemental I (atoms)	7.9303E+17	4.8997E+18
Organic I (atoms)	0.0000E+00	7.9809E+18
Aerosols (kg)	2.6356E-03	3.6554E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

Noble gases (atoms)	0.0000E+00	1.6562E+23
Elemental I (atoms)	1.4010E+18	3.7985E+18
Organic I (atoms)	0.0000E+00	7.9670E+18
Aerosols (kg)	5.5952E-04	1.3796E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5546E+22
Elemental I (atoms)	6.7368E+17	1.7033E+18
Organic I (atoms)	0.0000E+00	3.5829E+18
Aerosols (kg)	1.3933E-04	1.7168E-05

Filtered Intake to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4747E+20
Elemental I (atoms)	5.2318E+15	1.5450E+14
Organic I (atoms)	7.3791E+15	8.2621E+13
Aerosols (kg)	2.9816E-07	1.4076E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2430E+19
Elemental I (atoms)	0.0000E+00	1.3445E+15
Organic I (atoms)	0.0000E+00	1.6504E+15
Aerosols (kg)	0.0000E+00	8.6208E-08

Control Room Exhaust to Environment Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	1.7884E+20	0.0000E+00
Elemental I (atoms)	1.4861E+15	0.0000E+00
Organic I (atoms)	1.7162E+15	0.0000E+00
Aerosols (kg)	1.0014E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9229E-01	1.4908E+01	1.2221E+00
Accumulated dose (rem)	1.0036E+01	1.2322E+02	1.5075E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3713E-03	1.0538E-01	1.0824E-02
Accumulated dose (rem)	3.3419E-01	2.6443E+00	4.5000E-01

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6138E-02	1.9903E+00	1.0015E-01
Accumulated dose (rem)	8.9697E-01	4.9759E+01	3.0222E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.5046E+00	1.4166E-07	1.4709E+18	6.8096E+16
Co-60	5.5986E+00	4.9528E-06	4.9711E+19	8.2848E+16
Kr-85	8.1897E+05	2.0874E+00	1.4789E+25	1.0455E+22
Kr-85m	4.6781E+00	5.6846E-10	4.0274E+15	9.9482E+21
Kr-88	2.3989E-03	1.9131E-13	1.3092E+12	1.5769E+22

Rb-86	1.4208E+02	1.7461E-06	1.2227E+19	2.3925E+18
Sr-89	6.2989E+03	2.1681E-04	1.4671E+21	9.6077E+19
Sr-90	9.1815E+02	6.7309E-03	4.5039E+22	1.3578E+19
Sr-91	7.5254E+00	2.0760E-09	1.3738E+16	2.9557E+19
Sr-92	1.9386E-07	1.5423E-17	1.0096E+08	1.6744E+19
Y-90	5.9447E+02	1.0927E-06	7.3112E+18	4.4037E+18
Y-91	1.0160E+02	4.1428E-06	2.7416E+19	1.4592E+18
Y-92	1.9329E-04	2.0088E-14	1.3149E+11	3.6387E+18
Y-93	1.4094E-01	4.2244E-11	2.7355E+14	3.7802E+17
Zr-95	1.0818E+02	5.0354E-06	3.1920E+19	1.6392E+18
Zr-97	2.1865E+00	1.1437E-09	7.1008E+15	5.6251E+17
Nb-95	1.1345E+02	2.9012E-06	1.8391E+19	1.6800E+18
Mo-99	5.7078E+02	1.1901E-06	7.2393E+18	1.5644E+19
Tc-99m	5.8518E+02	1.1129E-07	6.7697E+17	1.4705E+19
Ru-103	1.2305E+03	3.8126E-05	2.2291E+20	1.8937E+19
Ru-105	2.9216E-04	4.3463E-14	2.4928E+11	2.2631E+18
Ru-106	5.7470E+02	1.7178E-04	9.7593E+20	8.5337E+18
Rh-105	1.5604E+02	1.8487E-07	1.0603E+18	7.5257E+18
Sb-127	8.8688E+02	3.3210E-06	1.5748E+19	2.0179E+19
Sb-129	1.1044E-03	1.9640E-13	9.1687E+11	1.2798E+19
Te-127	1.0872E+03	4.1195E-07	1.9534E+18	2.1554E+19
Te-127m	2.4355E+02	2.5820E-05	1.2244E+20	3.6076E+18
Te-129	6.3447E+02	3.0296E-08	1.4143E+17	1.9863E+19
Te-129m	7.3373E+02	2.4356E-05	1.1370E+20	1.1354E+19
Te-131m	2.6305E+02	3.2988E-07	1.5165E+18	1.6995E+19
Te-132	1.0063E+04	3.3147E-05	1.5123E+20	2.4892E+20
I-131	8.1844E+04	6.6017E-04	3.0348E+21	1.4587E+21
I-132	1.2012E+04	1.1637E-06	5.3089E+18	5.8503E+20
I-133	9.6300E+03	8.5010E-06	3.8492E+19	1.3114E+21
I-135	9.3624E+00	2.6659E-09	1.1892E+16	6.2610E+20
Xe-133	5.5985E+07	2.9909E-01	1.3543E+24	9.3928E+23
Xe-135	3.0841E+04	1.2077E-05	5.3873E+19	7.5928E+22
Cs-134	2.0297E+04	1.5687E-02	7.0502E+22	3.1382E+20
Cs-136	4.0296E+03	5.4981E-05	2.4346E+20	7.0475E+19
Cs-137	1.2931E+04	1.4866E-01	6.5349E+23	1.9954E+20
Ba-140	9.4777E+03	1.2946E-04	5.5688E+20	1.5879E+20
La-140	8.3469E+03	1.5017E-05	6.4596E+19	7.0070E+19
La-141	4.9338E-06	8.7242E-16	3.7261E+09	2.5162E+17
Ce-141	2.5625E+02	8.9934E-06	3.8411E+19	3.9756E+18
Ce-143	3.4621E+01	5.2133E-08	2.1955E+17	1.9239E+18
Ce-144	2.2937E+02	7.1915E-05	3.0075E+20	3.4102E+18
Pr-143	1.0174E+02	1.5109E-06	6.3629E+18	1.5383E+18
Nd-147	3.4539E+01	4.2695E-07	1.7491E+18	5.9064E+17
Np-239	1.0202E+03	4.3977E-06	1.1081E+19	3.1297E+19
Pu-238	1.2903E+00	7.5368E-05	1.9071E+20	1.9075E+16
Pu-239	7.7024E-02	1.2392E-03	3.1224E+21	1.1345E+15
Pu-240	7.7023E-02	3.3802E-04	8.4817E+20	1.1389E+15
Pu-241	4.5889E+01	4.4547E-04	1.1131E+21	6.7872E+17
Am-241	3.3298E-02	9.7017E-06	2.4243E+19	4.8559E+14
Cm-242	6.2794E+00	1.8947E-06	4.7148E+18	9.3744E+16
Cm-244	8.2049E-01	1.0142E-05	2.5031E+19	1.2135E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6144E+25	0.0000E+00	
Elemental I (atoms)	3.3234E+20	5.5506E+22	
Organic I (atoms)	5.7675E+20	0.0000E+00	
Aerosols (kg)	1.7450E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.1047E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1542E-05
Total I (Ci)			1.0349E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23

Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1069E+23
Elemental I (atoms)	0.0000E+00	3.5443E+18
Organic I (atoms)	0.0000E+00	5.1661E+18
Aerosols (kg)	0.0000E+00	1.7940E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1080E+27
Elemental I (atoms)	0.0000E+00	5.8040E+22
Organic I (atoms)	0.0000E+00	9.3912E+22
Aerosols (kg)	0.0000E+00	2.6782E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0966E+27
Elemental I (atoms)	0.0000E+00	5.7622E+22
Organic I (atoms)	0.0000E+00	9.3227E+22
Aerosols (kg)	0.0000E+00	2.6680E+01

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	1.4540E-02	4.5728E-10	4.7479E+15	5.3800E+08
Co-60	1.7619E-02	1.5587E-08	1.5645E+17	6.5191E+08
Kr-85	2.5348E+04	6.4608E-02	4.5774E+23	9.3787E+14
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	5.4534E-01	6.7022E-09	4.6932E+16	2.0178E+10
Sr-89	2.0550E+01	7.0734E-07	4.7862E+18	7.6035E+11
Sr-90	2.8872E+00	2.1166E-05	1.4163E+20	1.0683E+11
Sr-91	8.9158E+00	2.4595E-09	1.6276E+16	3.2988E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	7.3076E-01	1.3431E-09	8.9873E+15	2.7038E+10
Y-91	3.0487E-01	1.2432E-08	8.2270E+16	1.1280E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1378E-01	3.4103E-11	2.2083E+14	4.2098E+09
Zr-95	3.5017E-01	1.6300E-08	1.0333E+17	1.2956E+10
Zr-97	1.6076E-01	8.4091E-11	5.2207E+14	5.9479E+09
Nb-95	3.5745E-01	9.1411E-09	5.7946E+16	1.3225E+10
Mo-99	3.6887E+00	7.6910E-09	4.6784E+16	1.3648E+11
Tc-99m	3.5361E+00	6.7249E-10	4.0908E+15	1.3084E+11
Ru-103	4.0572E+00	1.2571E-07	7.3499E+17	1.5012E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	1.8161E+00	5.4282E-07	3.0839E+18	6.7194E+10
Rh-105	1.9066E+00	2.2588E-09	1.2955E+16	7.0543E+10

Sb-127	4.6257E+00	1.7321E-08	8.2134E+16	1.7115E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	4.9500E+00	1.8756E-09	8.8939E+15	1.8315E+11
Te-127m	7.6715E-01	8.1330E-08	3.8565E+17	2.8385E+10
Te-129	5.6160E+00	2.6817E-10	1.2519E+15	2.0779E+11
Te-129m	2.4347E+00	8.0818E-08	3.7728E+17	9.0083E+10
Te-131m	4.4346E+00	5.5612E-09	2.5565E+16	1.6408E+11
Te-132	5.7806E+01	1.9041E-07	8.6868E+17	2.1388E+12
I-131	1.0848E+03	8.7505E-06	4.0226E+19	4.0139E+13
I-132	3.1829E+02	3.0836E-08	1.4068E+17	1.1777E+13
I-133	1.0533E+03	9.2979E-07	4.2100E+18	3.8971E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	2.3320E+06	1.2458E-02	5.6411E+22	8.6284E+16
Xe-135	2.1855E+05	8.5580E-05	3.8176E+20	8.0863E+15
Cs-134	7.0345E+01	5.4370E-05	2.4434E+20	2.6028E+12
Cs-136	1.6180E+01	2.2076E-07	9.7754E+17	5.9865E+11
Cs-137	4.4710E+01	5.1401E-04	2.2595E+21	1.6543E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	3.4556E+01	4.7202E-07	2.0304E+18	1.2786E+12
La-140	1.1855E+01	2.1329E-08	9.1745E+16	4.3864E+11
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	8.5301E-01	2.9937E-08	1.2786E+17	3.1561E+10
Ce-143	4.9467E-01	7.4490E-10	3.1370E+15	1.8303E+10
Ce-144	7.2589E-01	2.2759E-07	9.5178E+17	2.6858E+10
Pr-143	3.2598E-01	4.8408E-09	2.0386E+16	1.2061E+10
Nd-147	1.2901E-01	1.5947E-09	6.5331E+15	4.7734E+09
Np-239	7.4983E+00	3.2322E-08	8.1442E+16	2.7744E+11
Pu-238	4.0558E-03	2.3691E-07	5.9945E+17	1.5007E+08
Pu-239	2.4102E-04	3.8776E-06	9.7705E+18	8.9176E+06
Pu-240	2.4216E-04	1.0627E-06	2.6667E+18	8.9601E+06
Pu-241	1.4433E-01	1.4011E-06	3.5010E+18	5.3402E+09
Am-241	1.0299E-04	3.0009E-08	7.4986E+16	3.8108E+06
Cm-242	1.9970E-02	6.0254E-09	1.4994E+16	7.3889E+08
Cm-244	2.5804E-03	3.1895E-08	7.8720E+16	9.5475E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s	
Noble gases (atoms)	5.1457E+23	1.4889E+18	
Elemental I (atoms)	1.0972E+19	3.1747E+13	
Organic I (atoms)	2.3444E+19	6.7834E+13	
Aerosols (kg)	6.0138E-04	1.7401E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.2748E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.4153E+03
Total I (Ci)			2.9549E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0896E+23
Elemental I (atoms)	1.2820E+18	5.3416E+18
Organic I (atoms)	0.0000E+00	9.5965E+18
Aerosols (kg)	3.0435E-03	4.2211E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0884E+23
Elemental I (atoms)	1.8887E+18	3.9149E+18
Organic I (atoms)	0.0000E+00	9.5821E+18
Aerosols (kg)	6.4615E-04	1.5932E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.7059E+22
Elemental I (atoms)	9.2748E+17	1.7639E+18
Organic I (atoms)	0.0000E+00	4.3865E+18
Aerosols (kg)	1.6197E-04	1.9957E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7462E+20
Elemental I (atoms)	5.3858E+15	1.5605E+14
Organic I (atoms)	8.3834E+15	9.2765E+13
Aerosols (kg)	3.1826E-07	1.4279E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8387E+19
Elemental I (atoms)	0.0000E+00	1.3787E+15
Organic I (atoms)	0.0000E+00	1.8730E+15
Aerosols (kg)	0.0000E+00	9.0662E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.1194E+20	0.0000E+00
Elemental I (atoms)	1.5226E+15	0.0000E+00
Organic I (atoms)	1.9489E+15	0.0000E+00
Aerosols (kg)	1.0480E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2431E+00	6.0942E+01	5.1223E+00
Accumulated dose (rem)	1.2280E+01	1.8417E+02	2.0197E+01

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.1306E-03	1.0945E-01	1.1302E-02
Accumulated dose (rem)	3.4032E-01	2.7538E+00	4.6130E-01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3647E-02	4.4673E+00	2.4464E-01
Accumulated dose (rem)	9.3062E-01	5.4226E+01	3.2668E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.9879E+05	2.0360E+00	1.4425E+25	2.5968E+22
Kr-85m	9.6323E-10	1.1705E-19	8.2925E+05	9.9482E+21
Rb-86	1.1101E+02	1.3643E-06	9.5532E+18	4.8073E+18
Sr-89	5.6640E+03	1.9496E-04	1.3192E+21	2.1069E+20
Sr-90	8.9612E+02	6.5694E-03	4.3958E+22	3.0975E+19
Sr-91	2.0099E-04	5.5445E-14	3.6692E+11	2.9571E+19
Y-90	8.3370E+02	1.5324E-06	1.0253E+19	1.8639E+19
Y-91	9.2413E+01	3.7683E-06	2.4937E+19	3.3184E+18

Y-93	7.0266E-06	2.1061E-15	1.3638E+10	3.7829E+17
Zr-95	9.8974E+01	4.6071E-06	2.9205E+19	3.6243E+18
Zr-97	5.8126E-03	3.0406E-12	1.8877E+13	5.6957E+17
Nb-95	1.0970E+02	2.8055E-06	1.7784E+19	3.8200E+18
Mo-99	1.2283E+02	2.5610E-07	1.5578E+18	2.1236E+19
Tc-99m	1.2593E+02	2.3949E-08	1.4568E+17	2.0149E+19
Ru-103	1.0807E+03	3.3486E-05	1.9578E+20	4.1069E+19
Ru-106	5.5483E+02	1.6584E-04	9.4218E+20	1.9364E+19
Rh-105	9.0561E+00	1.0729E-08	6.1536E+16	8.5160E+18
Sb-127	2.9400E+02	1.1009E-06	5.2204E+18	3.0478E+19
Te-127	5.1528E+02	1.9525E-07	9.2584E+17	3.5472E+19
Te-127m	2.3246E+02	2.4644E-05	1.1686E+20	8.1774E+18
Te-129	5.4736E+02	2.6137E-08	1.2201E+17	2.8383E+19
Te-129m	6.3300E+02	2.1012E-05	9.8092E+19	2.4437E+19
Te-131m	9.2196E+00	1.1562E-08	5.3151E+16	1.8447E+19
Te-132	2.7418E+03	9.0312E-06	4.1202E+19	3.5692E+20
I-131	4.7659E+04	3.8443E-04	1.7672E+21	2.6713E+21
I-132	3.2726E+03	3.1705E-07	1.4465E+18	6.9682E+20
I-133	7.7481E+01	6.8397E-08	3.0970E+17	1.3494E+21
I-135	2.5294E-06	7.2025E-16	3.2129E+09	6.2611E+20
Xe-133	2.4737E+07	1.3215E-01	5.9838E+23	1.6730E+24
Xe-135	5.1317E-01	2.0095E-10	8.9641E+14	7.5982E+22
Cs-134	1.9709E+04	1.5233E-02	6.8458E+22	6.9743E+20
Cs-136	2.8643E+03	3.9081E-05	1.7305E+20	1.3595E+20
Cs-137	1.2621E+04	1.4510E-01	6.3782E+23	4.4456E+20
Ba-140	6.6765E+03	9.1199E-05	3.9229E+20	3.1214E+20
La-140	7.5376E+03	1.3561E-05	5.8333E+19	2.2814E+20
Ce-141	2.2015E+02	7.7264E-06	3.2999E+19	8.5354E+18
Ce-143	1.6420E+00	2.4726E-09	1.0413E+16	2.1313E+18
Ce-144	2.2070E+02	6.9197E-05	2.8938E+20	7.7257E+18
Pr-143	7.5726E+01	1.1246E-06	4.7358E+18	3.2401E+18
Nd-147	2.3091E+01	2.8543E-07	1.1693E+18	1.1359E+18
Np-239	1.7036E+02	7.3433E-07	1.8503E+18	4.0404E+19
Pu-238	1.2604E+00	7.3625E-05	1.8629E+20	4.3534E+16
Pu-239	7.5426E-02	1.2135E-03	3.0576E+21	2.5970E+15
Pu-240	7.5206E-02	3.3004E-04	8.2815E+20	2.5986E+15
Pu-241	4.4770E+01	4.3461E-04	1.0860E+21	1.5481E+18
Am-241	3.3691E-02	9.8162E-06	2.4529E+19	1.1280E+15
Cm-242	5.9765E+00	1.8033E-06	4.4874E+18	2.1125E+17
Cm-244	8.0062E-01	9.8961E-06	2.4424E+19	2.7680E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5023E+25	0.0000E+00	
Elemental I (atoms)	1.9096E+20	5.5506E+22	
Organic I (atoms)	3.3140E+20	0.0000E+00	
Aerosols (kg)	1.6994E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7729E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.7768E-05
Total I (Ci)			5.1009E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19

Aerosols (kg)	0.0000E+00	6.3363E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3360E+23
Elemental I (atoms)	0.0000E+00	5.5598E+18
Organic I (atoms)	0.0000E+00	8.6638E+18
Aerosols (kg)	0.0000E+00	3.1565E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0748E+27
Elemental I (atoms)	0.0000E+00	1.0669E+23
Organic I (atoms)	0.0000E+00	1.7834E+23
Aerosols (kg)	0.0000E+00	5.9670E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0637E+27
Elemental I (atoms)	0.0000E+00	1.0628E+23
Organic I (atoms)	0.0000E+00	1.7766E+23
Aerosols (kg)	0.0000E+00	5.9570E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	5.7539E+04	1.4666E-01	1.0391E+24	2.1289E+15
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	8.9372E-01	1.0984E-08	7.6913E+16	3.3068E+10
Sr-89	3.7093E+01	1.2768E-06	8.6392E+18	1.3724E+12
Sr-90	5.3991E+00	3.9581E-05	2.6484E+20	1.9977E+11
Sr-91	8.9177E+00	2.4601E-09	1.6280E+16	3.2995E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	2.8022E+00	5.1506E-09	3.4464E+16	1.0368E+11
Y-91	5.7325E-01	2.3375E-08	1.5469E+17	2.1210E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1382E-01	3.4115E-11	2.2091E+14	4.2112E+09
Zr-95	6.3673E-01	2.9639E-08	1.8788E+17	2.3559E+10
Zr-97	1.6175E-01	8.4613E-11	5.2531E+14	5.9849E+09
Nb-95	6.6653E-01	1.7045E-08	1.0805E+17	2.4662E+10
Mo-99	4.4919E+00	9.3657E-09	5.6971E+16	1.6620E+11
Tc-99m	4.3596E+00	8.2911E-10	5.0434E+15	1.6131E+11
Ru-103	7.2515E+00	2.2469E-07	1.3137E+18	2.6831E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	3.3798E+00	1.0102E-06	5.7393E+18	1.2505E+11
Rh-105	2.0482E+00	2.4266E-09	1.3917E+16	7.5782E+10
Sb-127	6.1070E+00	2.2868E-08	1.0844E+17	2.2596E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	7.0243E+00	2.6616E-09	1.2621E+16	2.5990E+11
Te-127m	1.4269E+00	1.5128E-07	7.1733E+17	5.2796E+10
Te-129	7.2486E+00	3.4612E-10	1.6158E+15	2.6820E+11
Te-129m	4.3228E+00	1.4349E-07	6.6987E+17	1.5994E+11
Te-131m	4.6419E+00	5.8213E-09	2.6761E+16	1.7175E+11
Te-132	7.3330E+01	2.4154E-07	1.1020E+18	2.7132E+12
I-131	1.7144E+03	1.3828E-05	6.3570E+19	6.3432E+13
I-132	3.6784E+02	3.5636E-08	1.6258E+17	1.3610E+13
I-133	1.0727E+03	9.4694E-07	4.2877E+18	3.9690E+13

I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	3.8504E+06	2.0571E-02	9.3142E+22	1.4247E+17
Xe-135	2.1866E+05	8.5622E-05	3.8195E+20	8.0902E+15
Cs-134	1.2573E+02	9.7177E-05	4.3673E+20	4.6520E+12
Cs-136	2.5623E+01	3.4960E-07	1.5481E+18	9.4805E+11
Cs-137	8.0087E+01	9.2073E-04	4.0473E+21	2.9632E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	5.6672E+01	7.7411E-07	3.3299E+18	2.0969E+12
La-140	3.4863E+01	6.2723E-08	2.6980E+17	1.2899E+12
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	1.5111E+00	5.3032E-08	2.2650E+17	5.5910E+10
Ce-143	5.2432E-01	7.8953E-10	3.3250E+15	1.9400E+10
Ce-144	1.3489E+00	4.2293E-07	1.7687E+18	4.9911E+10
Pr-143	5.7149E-01	8.4868E-09	3.5740E+16	2.1145E+10
Nd-147	2.0764E-01	2.5667E-09	1.0515E+16	7.6827E+09
Np-239	8.8051E+00	3.7955E-08	9.5635E+16	3.2579E+11
Pu-238	7.5873E-03	4.4319E-07	1.1214E+18	2.8073E+08
Pu-239	4.5218E-04	7.2748E-06	1.8330E+19	1.6731E+07
Pu-240	4.5293E-04	1.9877E-06	4.9875E+18	1.6758E+07
Pu-241	2.6985E-01	2.6195E-06	6.5458E+18	9.9843E+09
Am-241	1.9577E-04	5.7039E-08	1.4253E+17	7.2433E+06
Cm-242	3.6934E-02	1.1144E-08	2.7732E+16	1.3666E+09
Cm-244	4.8248E-03	5.9638E-08	1.4719E+17	1.7852E+08

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1326E+24	1.3109E+18	
Elemental I (atoms)	1.2306E+19	1.4243E+13	
Organic I (atoms)	4.0966E+19	4.7414E+13	
Aerosols (kg)	1.0782E-03	1.2479E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.9078E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0518E+03
Total I (Ci)			3.6534E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5648E+23
Elemental I (atoms)	4.2072E+18	6.4752E+18
Organic I (atoms)	0.0000E+00	1.6640E+19
Aerosols (kg)	5.4531E-03	7.5630E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5636E+23
Elemental I (atoms)	3.6309E+18	4.0498E+18
Organic I (atoms)	0.0000E+00	1.6625E+19
Aerosols (kg)	1.1579E-03	2.8550E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2027E+23
Elemental I (atoms)	1.8443E+18	1.8349E+18
Organic I (atoms)	0.0000E+00	7.8912E+18
Aerosols (kg)	2.9560E-04	3.6423E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0277E+20
Elemental I (atoms)	5.6607E+15	1.5883E+14
Organic I (atoms)	1.1993E+16	1.2923E+14
Aerosols (kg)	4.1611E-07	1.5267E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6509E+19
Elemental I (atoms)	0.0000E+00	1.4396E+15
Organic I (atoms)	0.0000E+00	2.6731E+15
Aerosols (kg)	0.0000E+00	1.1235E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	3.6837E+20	0.0000E+00
Elemental I (atoms)	1.5867E+15	0.0000E+00
Organic I (atoms)	2.7864E+15	0.0000E+00
Aerosols (kg)	1.2750E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6831E+00	6.7230E+01	6.8643E+00
Accumulated dose (rem)	1.3963E+01	2.5140E+02	2.7062E+01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5999E-03	1.2075E-01	1.3906E-02
Accumulated dose (rem)	3.4492E-01	2.8745E+00	4.7520E-01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5008E-02	4.9200E+00	4.0414E-01
Accumulated dose (rem)	9.5562E-01	5.9146E+01	3.6709E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.3502E+05	1.8735E+00	1.3273E+25	7.4968E+22
Rb-86	4.8765E+01	5.9932E-07	4.1967E+18	9.6447E+18
Sr-89	3.9748E+03	1.3681E-04	9.2575E+20	5.1562E+20
Sr-90	8.2643E+02	6.0586E-03	4.0539E+22	8.6007E+19
Y-90	8.3078E+02	1.5270E-06	1.0217E+19	7.2872E+19
Y-91	6.7335E+01	2.7457E-06	1.8170E+19	8.3826E+18
Zr-95	7.3591E+01	3.4256E-06	2.1715E+19	9.1004E+18
Zr-97	1.5129E-11	7.9141E-21	4.9134E+04	5.6958E+17
Nb-95	9.4624E+01	2.4198E-06	1.5340E+19	1.0364E+19
Mo-99	7.3350E-01	1.5293E-09	9.3030E+15	2.2760E+19
Tc-99m	7.5201E-01	1.4302E-10	8.6996E+14	2.1633E+19
Ru-103	7.0121E+02	2.1727E-05	1.2703E+20	9.7157E+19
Ru-106	4.9342E+02	1.4748E-04	8.3790E+20	5.2834E+19
Rh-105	6.8544E-04	8.1208E-13	4.6576E+12	8.5770E+18
Sb-127	7.4125E+00	2.7757E-08	1.3162E+17	3.5456E+19
Te-127	2.0145E+02	7.6333E-08	3.6196E+17	5.3311E+19
Te-127m	1.9055E+02	2.0201E-05	9.5791E+19	2.1681E+19
Te-129	3.3458E+02	1.5976E-08	7.4582E+16	4.9196E+19
Te-129m	3.8693E+02	1.2844E-05	5.9959E+19	5.6396E+19

Te-131m	1.2991E-04	1.6291E-13	7.4893E+11	1.8500E+19
Te-132	3.5949E+01	1.1841E-07	5.4022E+17	3.9683E+20
I-131	7.8476E+03	6.3300E-05	2.9099E+20	4.0823E+21
I-132	4.2909E+01	4.1570E-09	1.8965E+16	7.3813E+20
I-133	8.0864E-06	7.1384E-15	3.2322E+10	1.3497E+21
Xe-133	1.6251E+06	8.6819E-03	3.9311E+22	2.2157E+24
Cs-134	1.7868E+04	1.3810E-02	6.2063E+22	1.8976E+21
Cs-136	9.1798E+02	1.2525E-05	5.5462E+19	2.4530E+20
Cs-137	1.1640E+04	1.3382E-01	5.8824E+23	1.2196E+21
Ba-140	2.0767E+03	2.8367E-05	1.2202E+20	5.6395E+20
La-140	2.4124E+03	4.3401E-06	1.8669E+19	5.1681E+20
Ce-141	1.3270E+02	4.6573E-06	1.9892E+19	1.9580E+19
Ce-143	6.3410E-05	9.5486E-14	4.0212E+11	2.1417E+18
Ce-144	1.9411E+02	6.0858E-05	2.5451E+20	2.0967E+19
Pr-143	2.5218E+01	3.7450E-07	1.5771E+18	6.1798E+18
Nd-147	6.0328E+00	7.4573E-08	3.0550E+17	1.9484E+18
Np-239	4.3677E-01	1.8827E-09	4.7438E+15	4.2224E+19
Pu-238	1.1657E+00	6.8092E-05	1.7229E+20	1.2105E+17
Pu-239	6.9693E-02	1.1213E-03	2.8252E+21	7.2343E+15
Pu-240	6.9452E-02	3.0479E-04	7.6479E+20	7.2202E+15
Pu-241	4.1233E+01	4.0028E-04	1.0002E+21	4.2956E+18
Am-241	3.4734E-02	1.0120E-05	2.5288E+19	3.3170E+15
Cm-242	5.0684E+00	1.5293E-06	3.8056E+18	5.6351E+17
Cm-244	7.3777E-01	9.1192E-06	2.2507E+19	7.6827E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3312E+25	0.0000E+00	
Elemental I (atoms)	3.1415E+19	5.5506E+22	
Organic I (atoms)	5.4518E+19	0.0000E+00	
Aerosols (kg)	1.5611E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9173E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9178E-06
Total I (Ci)			7.8905E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.0408E+23
Elemental I (atoms)	0.0000E+00	7.8951E+18
Organic I (atoms)	0.0000E+00	1.2717E+19
Aerosols (kg)	0.0000E+00	7.4526E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4018E+28

Elemental I (atoms)	0.0000E+00	1.6306E+23
Organic I (atoms)	0.0000E+00	2.7616E+23
Aerosols (kg)	0.0000E+00	1.6337E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4007E+28
Elemental I (atoms)	0.0000E+00	1.6265E+23
Organic I (atoms)	0.0000E+00	2.7549E+23
Aerosols (kg)	0.0000E+00	1.6328E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.5922E+05	4.0583E-01	2.8752E+24	5.8912E+15
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	1.5916E+00	1.9561E-08	1.3697E+17	5.8890E+10
Sr-89	8.1107E+01	2.7918E-06	1.8890E+19	3.0009E+12
Sr-90	1.3345E+01	9.7830E-05	6.5461E+20	4.9375E+11
Sr-91	8.9177E+00	2.4601E-09	1.6280E+16	3.2995E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	1.0676E+01	1.9623E-08	1.3130E+17	3.9502E+11
Y-91	1.3042E+00	5.3183E-08	3.5195E+17	4.8257E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1382E-01	3.4115E-11	2.2091E+14	4.2112E+09
Zr-95	1.4272E+00	6.6434E-08	4.2113E+17	5.2806E+10
Zr-97	1.6176E-01	8.4615E-11	5.2532E+14	5.9850E+09
Nb-95	1.6116E+00	4.1213E-08	2.6125E+17	5.9628E+10
Mo-99	4.7109E+00	9.8222E-09	5.9748E+16	1.7430E+11
Tc-99m	4.5841E+00	8.7179E-10	5.3031E+15	1.6961E+11
Ru-103	1.5347E+01	4.7551E-07	2.7802E+18	5.6783E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	8.2119E+00	2.4546E-06	1.3945E+19	3.0384E+11
Rh-105	2.0569E+00	2.4369E-09	1.3977E+16	7.6105E+10
Sb-127	6.8231E+00	2.5550E-08	1.2115E+17	2.5245E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	9.6909E+00	3.6720E-09	1.7412E+16	3.5856E+11
Te-127m	3.3764E+00	3.5795E-07	1.6974E+18	1.2493E+11
Te-129	1.1237E+01	5.3657E-10	2.5049E+15	4.1577E+11
Te-129m	8.9352E+00	2.9660E-07	1.3846E+18	3.3060E+11
Te-131m	4.6494E+00	5.8307E-09	2.6804E+16	1.7203E+11
Te-132	7.9067E+01	2.6044E-07	1.1882E+18	2.9255E+12
I-131	2.4090E+03	1.9431E-05	8.9327E+19	8.9133E+13
I-132	3.8545E+02	3.7342E-08	1.7036E+17	1.4262E+13
I-133	1.0729E+03	9.4707E-07	4.2883E+18	3.9696E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	4.9734E+06	2.6570E-02	1.2031E+23	1.8402E+17
Xe-135	2.1866E+05	8.5622E-05	3.8195E+20	8.0902E+15
Cs-134	2.9901E+02	2.3111E-04	1.0386E+21	1.1063E+13
Cs-136	4.1394E+01	5.6478E-07	2.5009E+18	1.5316E+12
Cs-137	1.9200E+02	2.2073E-03	9.7027E+21	7.1038E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	9.2988E+01	1.2702E-06	5.4637E+18	3.4406E+12
La-140	7.6810E+01	1.3819E-07	5.9443E+17	2.8420E+12
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	3.1050E+00	1.0897E-07	4.6542E+17	1.1488E+11
Ce-143	5.2579E-01	7.9176E-10	3.3343E+15	1.9454E+10
Ce-144	3.2607E+00	1.0223E-06	4.2754E+18	1.2064E+11
Pr-143	9.9548E-01	1.4783E-08	6.2256E+16	3.6833E+10

Nd-147	3.2479E-01	4.0148E-09	1.6448E+16	1.2017E+10
Np-239	9.0664E+00	3.9081E-08	9.8473E+16	3.3546E+11
Pu-238	1.8779E-02	1.0969E-06	2.7756E+18	6.9483E+08
Pu-239	1.1217E-03	1.8047E-05	4.5473E+19	4.1504E+07
Pu-240	1.1202E-03	4.9161E-06	1.2335E+19	4.1448E+07
Pu-241	6.6655E-01	6.4705E-06	1.6169E+19	2.4662E+10
Am-241	5.1190E-04	1.4915E-07	3.7269E+17	1.8940E+07
Cm-242	8.7790E-02	2.6488E-08	6.5916E+16	3.2482E+09
Cm-244	1.1921E-02	1.4735E-07	3.6367E+17	4.4107E+08

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.9960E+24	1.1559E+18
Elemental I (atoms)	1.2446E+19	4.8017E+12
Organic I (atoms)	6.1276E+19	2.3640E+13
Aerosols (kg)	2.5817E-03	9.9603E-10
Dose Effective (Ci) I-131 (Thyroid)		2.6026E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		2.7471E+03
Total I (Ci)		4.3658E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2025E+24
Elemental I (atoms)	8.7811E+18	6.6040E+18
Organic I (atoms)	0.0000E+00	2.4801E+19
Aerosols (kg)	1.3051E-02	1.8100E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2024E+24
Elemental I (atoms)	3.9522E+18	4.0569E+18
Organic I (atoms)	0.0000E+00	2.4786E+19
Aerosols (kg)	2.7715E-03	6.8337E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9164E+23
Elemental I (atoms)	2.0350E+18	1.8391E+18
Organic I (atoms)	0.0000E+00	1.1953E+19
Aerosols (kg)	7.1697E-04	8.8342E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8904E+20
Elemental I (atoms)	5.6895E+15	1.5912E+14
Organic I (atoms)	1.6176E+16	1.7148E+14
Aerosols (kg)	7.2464E-07	1.8384E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5127E+20
Elemental I (atoms)	0.0000E+00	1.4460E+15
Organic I (atoms)	0.0000E+00	3.6003E+15
Aerosols (kg)	0.0000E+00	1.8074E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	8.3945E+20	0.0000E+00
Elemental I (atoms)	1.5936E+15	0.0000E+00
Organic I (atoms)	3.7560E+15	0.0000E+00
Aerosols (kg)	1.9901E-07	0.0000E+00

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#####################################################################
                          I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5258E+03	0.0000E+00	0.0000E+00
0.033	2.6557E+05	0.0000E+00	0.0000E+00
0.167	1.2318E+06	3.7127E+01	3.6830E+01
0.500	5.3661E+05	1.0632E+02	1.0244E+02
0.667	8.5233E+05	1.4334E+02	1.3684E+02
1.000	8.9300E+05	2.2276E+02	2.0897E+02
1.160	8.9973E+05	2.5733E+02	2.3927E+02
1.410	9.0759E+05	3.0672E+02	2.8131E+02
1.660	9.1340E+05	3.5087E+02	3.1756E+02
1.910	9.1791E+05	3.9025E+02	3.4876E+02
2.000	9.1931E+05	4.0336E+02	3.5889E+02
2.200	1.1456E+05	3.9422E+02	3.4607E+02
2.300	7.9948E+04	3.8473E+02	3.3494E+02
2.600	1.6514E+05	3.6051E+02	3.0663E+02
2.900	1.6704E+05	3.4050E+02	2.8353E+02
3.200	1.4895E+05	3.2151E+02	2.6229E+02
3.500	1.2863E+05	3.0288E+02	2.4215E+02
3.800	1.1061E+05	2.8461E+02	2.2300E+02
4.000	1.0030E+05	2.7271E+02	2.1083E+02
4.300	1.0993E+05	2.5618E+02	1.9431E+02
4.600	1.1339E+05	2.4143E+02	1.7997E+02
4.900	1.1459E+05	2.2808E+02	1.6733E+02
5.200	1.1494E+05	2.1591E+02	1.5613E+02
5.500	1.1498E+05	2.0478E+02	1.4617E+02
5.800	1.1492E+05	1.9461E+02	1.3730E+02
6.100	1.1481E+05	1.8529E+02	1.2939E+02
6.400	1.1468E+05	1.7676E+02	1.2235E+02
6.700	1.1455E+05	1.6895E+02	1.1608E+02
7.000	1.1442E+05	1.6180E+02	1.1048E+02
7.300	1.1429E+05	1.5524E+02	1.0549E+02
7.600	1.1416E+05	1.4924E+02	1.0104E+02
7.900	1.1402E+05	1.4374E+02	9.7069E+01
8.000	1.1398E+05	1.4201E+02	9.5843E+01
8.300	1.1385E+05	1.3712E+02	9.2432E+01
8.600	1.1372E+05	1.3263E+02	8.9387E+01
8.900	1.1358E+05	1.2852E+02	8.6669E+01
9.200	1.1345E+05	1.2475E+02	8.4240E+01
9.500	1.1332E+05	1.2129E+02	8.2070E+01
9.800	1.1319E+05	1.1812E+02	8.0130E+01
10.100	1.1306E+05	1.1521E+02	7.8395E+01
10.400	1.1293E+05	1.1254E+02	7.6842E+01
24.000	1.0712E+05	8.1067E+01	6.1587E+01
48.000	9.7953E+04	7.3976E+01	5.6478E+01
72.000	8.9544E+04	6.7622E+01	5.1631E+01
96.000	8.1844E+04	6.1807E+01	4.7191E+01
240.000	4.7659E+04	3.5991E+01	2.7480E+01
720.000	7.8476E+03	5.9263E+00	4.5249E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1823E-01	1.8721E+01	4.4273E-02
0.500	3.5420E+00	5.5646E+01	5.7469E-01
0.667	5.5175E+00	7.5944E+01	9.6023E-01
1.000	1.0475E+01	1.2082E+02	2.0347E+00
1.160	1.3072E+01	1.4125E+02	2.6659E+00
1.410	1.7118E+01	1.7155E+02	3.7573E+00
1.660	2.0980E+01	1.9991E+02	4.9386E+00
1.910	2.4556E+01	2.2639E+02	6.1751E+00
2.000	2.5765E+01	2.3548E+02	6.6285E+00
2.200	2.7073E+01	2.3422E+02	7.1946E+00
2.300	2.7490E+01	2.3101E+02	7.4480E+00
2.600	2.7966E+01	2.2304E+02	8.0935E+00
2.900	2.7699E+01	2.1661E+02	8.6033E+00
3.200	2.6997E+01	2.1017E+02	9.0055E+00
3.500	2.6027E+01	2.0343E+02	9.3172E+00
3.800	2.4896E+01	1.9643E+02	9.5513E+00
4.000	2.4089E+01	1.9167E+02	9.6699E+00
4.300	2.2849E+01	1.8486E+02	9.7998E+00
4.600	2.1630E+01	1.7862E+02	9.8829E+00
4.900	2.0469E+01	1.7277E+02	9.9287E+00
5.200	1.9384E+01	1.6726E+02	9.9449E+00
5.500	1.8384E+01	1.6205E+02	9.9375E+00
5.800	1.7468E+01	1.5712E+02	9.9115E+00
6.100	1.6635E+01	1.5244E+02	9.8710E+00
6.400	1.5881E+01	1.4801E+02	9.8193E+00
6.700	1.5201E+01	1.4382E+02	9.7591E+00
7.000	1.4589E+01	1.3984E+02	9.6926E+00
7.300	1.4038E+01	1.3607E+02	9.6217E+00
7.600	1.3545E+01	1.3250E+02	9.5478E+00
7.900	1.3102E+01	1.2911E+02	9.4721E+00
8.000	1.2965E+01	1.2802E+02	9.4467E+00
8.300	1.2572E+01	1.2487E+02	9.3645E+00
8.600	1.2223E+01	1.2188E+02	9.2835E+00
8.900	1.1911E+01	1.1905E+02	9.2040E+00
9.200	1.1633E+01	1.1636E+02	9.1264E+00
9.500	1.1385E+01	1.1381E+02	9.0508E+00
9.800	1.1164E+01	1.1139E+02	8.9774E+00
10.100	1.0965E+01	1.0910E+02	8.9063E+00
10.400	1.0788E+01	1.0693E+02	8.8376E+00
24.000	8.9618E+00	6.9295E+01	7.3911E+00
48.000	8.1384E+00	6.0450E+01	6.5594E+00
72.000	7.2495E+00	5.4951E+01	5.8026E+00
96.000	6.3668E+00	5.0192E+01	5.0560E+00
240.000	3.5382E+00	2.9226E+01	2.7804E+00
720.000	5.2094E-01	4.8123E+00	3.9440E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	1.6810E-01	5.4120E-04	1.2580E+05
0.500	2.7072E+00	5.6645E-03	2.6802E+05
0.667	4.9419E+00	8.7022E-03	3.3556E+05
1.000	1.1969E+01	6.4606E-03	4.5652E+05
1.160	1.6602E+01	6.0152E-03	4.9411E+05
1.410	2.5448E+01	5.8574E-03	5.3527E+05
1.660	3.6186E+01	6.1452E-03	5.6195E+05
1.910	4.8715E+01	6.7091E-03	5.7944E+05
2.000	5.3644E+01	6.9562E-03	5.8417E+05
2.200	6.0293E+01	6.1944E-03	4.5921E+05
2.300	6.3624E+01	5.8982E-03	3.8706E+05
2.600	7.3545E+01	5.2384E-03	2.5369E+05
2.900	8.3338E+01	4.8126E-03	1.8971E+05
3.200	9.2966E+01	4.5243E-03	1.5116E+05
3.500	1.0240E+02	4.3148E-03	1.2404E+05

3.800	1.1160E+02	4.1498E-03	1.0344E+05
4.000	1.1761E+02	4.0544E-03	9.2236E+04
4.300	1.2642E+02	3.9255E-03	8.2382E+04
4.600	1.3501E+02	3.8095E-03	7.8697E+04
4.900	1.4338E+02	3.7039E-03	7.7285E+04
5.200	1.5156E+02	3.6070E-03	7.6708E+04
5.500	1.5955E+02	3.5179E-03	7.6440E+04
5.800	1.6738E+02	3.4359E-03	7.6285E+04
6.100	1.7505E+02	3.3604E-03	7.6172E+04
6.400	1.8258E+02	3.2910E-03	7.6075E+04
6.700	1.8998E+02	3.2273E-03	7.5983E+04
7.000	1.9726E+02	3.1689E-03	7.5894E+04
7.300	2.0444E+02	3.1155E-03	7.5805E+04
7.600	2.1151E+02	3.0666E-03	7.5717E+04
7.900	2.1850E+02	3.0220E-03	7.5629E+04
8.000	2.2081E+02	3.0080E-03	7.5600E+04
8.300	2.2760E+02	2.3147E-03	7.5512E+04
8.600	2.3431E+02	1.8843E-03	7.5424E+04
8.900	2.4096E+02	1.6157E-03	7.5337E+04
9.200	2.4754E+02	1.4467E-03	7.5249E+04
9.500	2.5407E+02	1.3392E-03	7.5162E+04
9.800	2.6055E+02	1.2697E-03	7.5074E+04
10.100	2.6698E+02	1.2239E-03	7.4987E+04
10.400	2.7337E+02	1.1928E-03	7.4900E+04
24.000	5.4373E+02	1.0338E-03	7.1049E+04
48.000	7.5574E+02	3.0020E-04	6.4964E+04
72.000	9.3452E+02	2.5288E-04	5.9387E+04
96.000	1.0848E+03	2.1266E-04	5.4280E+04
240.000	1.7144E+03	9.6573E-05	3.1608E+04
720.000	2.4090E+03	1.5079E-05	5.2046E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2630E-02	1.1495E-03	2.3712E-03	1.2044E-04	2.1070E-02	8.7356E-04
0.500	3.6335E-01	1.9669E-02	3.8072E-02	2.0609E-03	8.5209E-01	3.5132E-02
0.667	6.6305E-01	3.8308E-02	6.9475E-02	4.0140E-03	1.8490E+00	7.6549E-02
1.000	1.6105E+00	1.1678E-01	1.6875E-01	1.2237E-02	3.9169E+00	1.6543E-01
1.160	2.2356E+00	1.8032E-01	2.3425E-01	1.8894E-02	4.7465E+00	2.0318E-01
1.410	3.4290E+00	3.2027E-01	3.5929E-01	3.3559E-02	5.9762E+00	2.6345E-01
1.660	4.8756E+00	5.1446E-01	5.1087E-01	5.3905E-02	7.2241E+00	3.3088E-01
1.910	6.5604E+00	7.6586E-01	6.8740E-01	8.0248E-02	8.5637E+00	4.0987E-01
2.000	7.2222E+00	8.7063E-01	7.5674E-01	9.1226E-02	9.0776E+00	4.4170E-01
2.200	8.1141E+00	1.0178E+00	7.9548E-01	9.7616E-02	1.0174E+01	5.1125E-01
2.300	8.5600E+00	1.0940E+00	8.1484E-01	1.0092E-01	1.0678E+01	5.4380E-01
2.600	9.8846E+00	1.3304E+00	8.7237E-01	1.1119E-01	1.2065E+01	6.3534E-01
2.900	1.1187E+01	1.5754E+00	9.2892E-01	1.2183E-01	1.3314E+01	7.2074E-01
3.200	1.2462E+01	1.8256E+00	9.8430E-01	1.3270E-01	1.4472E+01	8.0240E-01
3.500	1.3706E+01	2.0779E+00	1.0383E+00	1.4365E-01	1.5566E+01	8.8151E-01
3.800	1.4916E+01	2.3299E+00	1.0909E+00	1.5460E-01	1.6609E+01	9.5858E-01
4.000	1.5703E+01	2.4969E+00	1.1250E+00	1.6185E-01	1.7282E+01	1.0089E+00
4.300	1.6853E+01	2.7445E+00	1.1750E+00	1.7260E-01	1.8260E+01	1.0829E+00
4.600	1.7970E+01	2.9880E+00	1.2235E+00	1.8317E-01	1.9205E+01	1.1549E+00
4.900	1.9054E+01	3.2263E+00	1.2706E+00	1.9352E-01	2.0119E+01	1.2251E+00
5.200	2.0110E+01	3.4591E+00	1.3164E+00	2.0363E-01	2.1005E+01	1.2932E+00
5.500	2.1138E+01	3.6858E+00	1.3610E+00	2.1348E-01	2.1866E+01	1.3594E+00
5.800	2.2140E+01	3.9062E+00	1.4046E+00	2.2305E-01	2.2702E+01	1.4237E+00
6.100	2.3120E+01	4.1201E+00	1.4471E+00	2.3234E-01	2.3517E+01	1.4860E+00
6.400	2.4078E+01	4.3276E+00	1.4887E+00	2.4135E-01	2.4312E+01	1.5465E+00
6.700	2.5017E+01	4.5286E+00	1.5295E+00	2.5008E-01	2.5088E+01	1.6052E+00
7.000	2.5937E+01	4.7232E+00	1.5695E+00	2.5853E-01	2.5848E+01	1.6621E+00

7.300	2.6841E+01	4.9116E+00	1.6087E+00	2.6671E-01	2.6591E+01	1.7173E+00
7.600	2.7730E+01	5.0939E+00	1.6473E+00	2.7463E-01	2.7320E+01	1.7710E+00
7.900	2.8604E+01	5.2703E+00	1.6853E+00	2.8229E-01	2.8036E+01	1.8231E+00
8.000	2.8893E+01	5.3278E+00	1.6978E+00	2.8479E-01	2.8272E+01	1.8401E+00
8.300	2.9740E+01	5.4963E+00	1.7100E+00	2.8903E-01	2.8889E+01	1.8843E+00
8.600	3.0575E+01	5.6594E+00	1.7220E+00	2.9313E-01	2.9376E+01	1.9188E+00
8.900	3.1399E+01	5.8172E+00	1.7339E+00	2.9709E-01	2.9782E+01	1.9472E+00
9.200	3.2214E+01	5.9701E+00	1.7456E+00	3.0092E-01	3.0136E+01	1.9717E+00
9.500	3.3019E+01	6.1181E+00	1.7572E+00	3.0463E-01	3.0458E+01	1.9937E+00
9.800	3.3816E+01	6.2617E+00	1.7686E+00	3.0821E-01	3.0758E+01	2.0141E+00
10.100	3.4605E+01	6.4008E+00	1.7800E+00	3.1168E-01	3.1045E+01	2.0333E+00
10.400	3.5387E+01	6.5359E+00	1.7912E+00	3.1504E-01	3.1322E+01	2.0517E+00
24.000	6.7131E+01	1.0471E+01	2.2478E+00	4.0876E-01	4.2058E+01	2.6478E+00
48.000	9.0066E+01	1.2404E+01	2.4099E+00	4.2630E-01	4.5332E+01	2.8046E+00
72.000	1.0832E+02	1.3853E+01	2.5390E+00	4.3917E-01	4.7769E+01	2.9220E+00
96.000	1.2322E+02	1.5075E+01	2.6443E+00	4.5000E-01	4.9759E+01	3.0222E+00
240.000	1.8417E+02	2.0197E+01	2.7538E+00	4.6130E-01	5.4226E+01	3.2668E+00
720.000	2.5140E+02	2.7062E+01	2.8745E+00	4.7520E-01	5.9146E+01	3.6709E+00

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	1.2267E+00	9.5812E+00	1.6941E+00

Attachment 12.4b - RADTRAD Output File "DRE3MS11_West.o0" (Westinghouse Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:09:46
 ######################################################################

 ######################################################################
                     File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3MS11_West.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 External Cloud Submergence Gamma Dose Rate @ CR Air Intake Due To MSIV Leakage  - Core
Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs a
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
```

```
Compartment 4:
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
```

```
Drywell to Intact Control Volume 2
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
```

```
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
```

```
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
```

```
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
CR Air Intake
  7
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   1.7800E-04
  9.6000E+01   9.7600E-05
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:09:46
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
```

```
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:09:46
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.433E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.603E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        4.865E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.482E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.714E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        3.979E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.508E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.379E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        8.763E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.609E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   7.427E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.436E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   2.022E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   6.465E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.715E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   3.747E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.382E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.647E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   3.846E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.481E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.647E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   4.178E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.609E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.575E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.642E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.106E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.476E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.077E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.890E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.901E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.974E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.819E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.957E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   3.979E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.687E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.290E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   3.945E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.846E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.702E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.912E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.537E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.101E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.172E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
  3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location CR Air Intake     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          1.7800E-04
       9.6000E+01          9.7600E-05
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
```

```
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-01
      1.0000E+00       1.0000E-02
      2.0000E+00       5.0000E-01
      8.0000E+00       1.0000E+00
      2.4000E+01       2.0000E+00
      9.6000E+01       5.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:09:46
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

CR Air Intake Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.5010E+22  0.0000E+00
Elemental I (atoms)    6.2714E+20  0.0000E+00
Organic I (atoms)      1.9396E+19  0.0000E+00
Aerosols (kg)          6.3695E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.3887E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.7722E-04
Total I (Ci)                                   2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1133E+21
Elemental I (atoms)    0.0000E+00  1.3960E+19
Organic I (atoms)      0.0000E+00  4.3176E+17
Aerosols (kg)          0.0000E+00  1.4168E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5936E+19
Elemental I (atoms)    0.0000E+00  3.0345E+17
Organic I (atoms)      0.0000E+00  9.3849E+15
Aerosols (kg)          0.0000E+00  3.0796E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

```
                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2010E-04  2.2630E-02  1.1495E-03
Accumulated dose (rem)  2.2010E-04  2.2630E-02  1.1495E-03

CR Air Intake Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1399E-03  1.1721E-01  5.9535E-03
Accumulated dose (rem)  1.1399E-03  1.1721E-01  5.9535E-03

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.9406E-06  2.1070E-02  8.7356E-04
Accumulated dose (rem)  7.9406E-06  2.1070E-02  8.7356E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.1025E+04  5.3588E-02  3.7967E+23  3.2238E+17
Kr-85m                 3.3017E+05  4.0120E-05  2.8424E+20  5.1134E+18
Kr-87                  5.9815E+05  2.1117E-05  1.4617E+20  9.5020E+18
Kr-88                  8.8559E+05  7.0625E-05  4.8331E+20  1.3795E+19
Rb-86                  2.9483E+03  3.6235E-05  2.5373E+20  4.5213E+16
I-131                  1.2318E+06  9.9362E-03  4.5677E+22  1.8893E+19
I-132                  1.7255E+06  1.6717E-04  7.6266E+20  2.6857E+19
I-133                  2.5118E+06  2.2173E-03  1.0040E+22  3.8597E+19
I-134                  2.4394E+06  9.1442E-05  4.1095E+20  3.9380E+19
I-135                  2.3184E+06  6.6016E-04  2.9449E+21  3.5790E+19
Xe-133                 2.4200E+06  1.2928E-02  5.8539E+22  3.7100E+19
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Xe-135                 1.0138E+06  3.9699E-04  1.7709E+21  1.5397E+19
Cs-134                 3.6447E+05  2.8170E-01  1.2660E+24  5.5886E+18
Cs-136                 8.9056E+04  1.2151E-03  5.3805E+21  1.3657E+18
Cs-137                 2.3141E+05  2.6605E+00  1.1695E+25  3.5483E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.4089E+23  0.0000E+00
Elemental I (atoms)    2.9020E+21  0.0000E+00
Organic I (atoms)      8.9753E+19  0.0000E+00
Aerosols (kg)          2.9558E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.4301E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1779E-04
Total I (Ci)                                   1.0227E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3642E+19
Elemental I (atoms)    0.0000E+00  8.9969E+16
Organic I (atoms)      0.0000E+00  2.7825E+15
Aerosols (kg)          0.0000E+00  9.1457E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3642E+19
Elemental I (atoms)    0.0000E+00  8.9969E+16
Organic I (atoms)      0.0000E+00  2.7825E+15
Aerosols (kg)          0.0000E+00  9.1457E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8095E+18
Elemental I (atoms)    0.0000E+00  4.4909E+16
Organic I (atoms)      0.0000E+00  1.3889E+15
Aerosols (kg)          0.0000E+00  4.5652E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0261E+22
Elemental I (atoms)    0.0000E+00  3.3150E+20
Organic I (atoms)      0.0000E+00  1.0253E+19
Aerosols (kg)          0.0000E+00  3.3696E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2156E+21
Elemental I (atoms)    0.0000E+00  3.4390E+19
Organic I (atoms)      0.0000E+00  1.0636E+18
Aerosols (kg)          0.0000E+00  3.4966E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.8572E-02  4.7337E-08  3.3537E+17  6.8716E+08
Kr-85m                 2.9218E-01  3.5504E-11  2.5154E+14  1.0811E+10
Kr-87                  5.3180E-01  1.8774E-11  1.2996E+14  1.9676E+10
Kr-88                  7.8452E-01  6.2565E-11  4.2816E+14  2.9027E+10
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Rb-86	2.9703E-04	3.6505E-12	2.5563E+13	1.0990E+07
I-131	1.6810E-01	1.3559E-09	6.2332E+15	6.2196E+09
I-132	2.3413E-01	2.2682E-11	1.0348E+14	8.6628E+09
I-133	3.4289E-01	3.0269E-10	1.3705E+15	1.2687E+10
I-134	3.3610E-01	1.2599E-11	5.6621E+13	1.2436E+10
I-135	3.1676E-01	9.0197E-11	4.0235E+14	1.1720E+10
Xe-133	2.1370E+00	1.1417E-08	5.1693E+16	7.9068E+10
Xe-135	8.8704E-01	3.4735E-10	1.5495E+15	3.2821E+10
Cs-134	3.6718E-02	2.8380E-08	1.2754E+17	1.3586E+09
Cs-136	8.9721E-03	1.2242E-10	5.4207E+14	3.3197E+08
Cs-137	2.3313E-02	2.6803E-07	1.1782E+18	8.6259E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	3.8943E+17	6.4891E+14
Elemental I (atoms)	2.3594E+15	3.9315E+12
Organic I (atoms)	7.9294E+13	1.3213E+11
Aerosols (kg)	2.9778E-07	4.9620E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3607E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.0028E-01
Total I (Ci)	1.3980E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5106E+17
Elemental I (atoms)	1.5832E+14	2.1563E+15
Organic I (atoms)	0.0000E+00	7.1586E+13
Aerosols (kg)	2.0669E-06	2.8666E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4422E+16
Elemental I (atoms)	3.2557E+13	1.8493E+14
Organic I (atoms)	0.0000E+00	7.0182E+12
Aerosols (kg)	4.3042E-08	1.0613E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1790E+15
Elemental I (atoms)	3.9638E+12	2.2515E+13
Organic I (atoms)	0.0000E+00	8.5206E+11
Aerosols (kg)	2.7413E-09	3.3778E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2568E+14
Elemental I (atoms)	0.0000E+00	3.1895E+12
Organic I (atoms)	0.0000E+00	1.0719E+11
Aerosols (kg)	0.0000E+00	4.0194E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5579E+14
Elemental I (atoms)	0.0000E+00	5.7991E+12
Organic I (atoms)	0.0000E+00	1.9490E+11

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Aerosols (kg)          0.0000E+00  7.3080E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.2930E+14  0.0000E+00
Elemental I (atoms)    1.3935E+12  0.0000E+00
Organic I (atoms)      4.6751E+10  0.0000E+00
Aerosols (kg)          1.7704E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6714E-03  3.4072E-01  1.8520E-02
Accumulated dose (rem)  4.8915E-03  3.6335E-01  1.9669E-02

CR Air Intake Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4194E-02  1.7647E+00  9.5918E-02
Accumulated dose (rem)  2.5334E-02  1.8819E+00  1.0187E-01

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9459E-04  8.3102E-01  3.4258E-02
Accumulated dose (rem)  4.0253E-04  8.5209E-01  3.5132E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  5.5286E+04  1.4091E-01  9.9836E+23  2.2514E+18
Kr-85m                 8.2455E+05  1.0019E-04  7.0987E+20  3.4544E+19
Kr-87                  1.3116E+06  4.6304E-05  3.2052E+20  5.9118E+19
Kr-88                  2.1468E+06  1.7120E-04  1.1716E+21  9.1437E+19
Rb-86                  1.2754E+03  1.5674E-05  1.0976E+20  1.0863E+17
I-131                  5.3661E+05  4.3284E-03  1.9898E+22  4.5514E+19
I-132                  7.4559E+05  7.2232E-05  3.2954E+20  6.4371E+19
I-133                  1.0833E+06  9.5626E-04  4.3298E+21  9.2628E+19
I-134                  8.1734E+05  3.0639E-05  1.3769E+20  8.6221E+19
I-135                  9.7629E+05  2.7800E-04  1.2401E+21  8.5117E+19
Xe-133                 6.3570E+06  3.3961E-02  1.5377E+23  2.5901E+20
Xe-135                 2.6558E+06  1.0400E-03  4.6392E+21  1.0819E+20
Cs-134                 1.5774E+05  1.2192E-01  5.4791E+23  1.3431E+19
Cs-136                 3.8514E+04  5.2550E-04  2.3269E+21  3.2812E+18
Cs-137                 1.0015E+05  1.1514E+00  5.0613E+24  8.5274E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.1590E+24  0.0000E+00
Elemental I (atoms)    1.2484E+21  7.6315E+21
Organic I (atoms)      2.3445E+20  0.0000E+00
Aerosols (kg)          1.2792E+00  7.7865E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.7896E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5248E-04
Total I (Ci)                                   4.1591E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1538E+20
Elemental I (atoms)    0.0000E+00  2.8116E+17
Organic I (atoms)      0.0000E+00  2.3439E+16
Aerosols (kg)          0.0000E+00  2.8653E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20
Elemental I (atoms)	0.0000E+00	2.8116E+17
Organic I (atoms)	0.0000E+00	2.3439E+16
Aerosols (kg)	0.0000E+00	2.8653E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7592E+19
Elemental I (atoms)	0.0000E+00	1.4034E+17
Organic I (atoms)	0.0000E+00	1.1700E+16
Aerosols (kg)	0.0000E+00	1.4302E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0933E+23
Elemental I (atoms)	0.0000E+00	1.0063E+21
Organic I (atoms)	0.0000E+00	8.3158E+19
Aerosols (kg)	0.0000E+00	1.0254E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1136E+23
Elemental I (atoms)	0.0000E+00	3.8188E+20
Organic I (atoms)	0.0000E+00	2.2603E+19
Aerosols (kg)	0.0000E+00	3.8988E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	5.8024E-01	1.4789E-06	1.0478E+19	2.1469E+10
Kr-85m	8.7602E+00	1.0645E-09	7.5418E+15	3.2413E+11
Kr-87	1.4384E+01	5.0782E-10	3.5151E+15	5.3222E+11
Kr-88	2.2971E+01	1.8320E-09	1.2537E+16	8.4994E+11
Rb-86	4.5847E-03	5.6346E-11	3.9456E+14	1.6963E+08
I-131	2.7072E+00	2.1836E-08	1.0038E+17	1.0016E+11
I-132	3.5797E+00	3.4680E-10	1.5822E+15	1.3245E+11
I-133	5.4832E+00	4.8403E-09	2.1917E+16	2.0288E+11
I-134	4.5073E+00	1.6896E-10	7.5932E+14	1.6677E+11
I-135	4.9805E+00	1.4182E-09	6.3263E+15	1.8428E+11
Xe-133	6.6726E+01	3.5647E-07	1.6141E+18	2.4688E+12
Xe-135	2.7802E+01	1.0887E-08	4.8564E+16	1.0287E+12
Cs-134	5.6695E-01	4.3820E-07	1.9693E+18	2.0977E+10
Cs-136	1.3846E-01	1.8892E-09	8.3656E+15	5.1232E+09
Cs-137	3.5997E-01	4.1385E-06	1.8192E+19	1.3319E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.2164E+19	6.7580E+15
Elemental I (atoms)	4.0502E+16	2.2501E+13
Organic I (atoms)	2.4636E+15	1.3686E+12
Aerosols (kg)	4.5979E-06	2.5544E-09

Dose Effective (Ci) I-131 (Thyroid)	3.7898E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.7931E+00
Total I (Ci)	2.1258E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.2596E+18
Elemental I (atoms)	2.2380E+15	3.0482E+16
Organic I (atoms)	0.0000E+00	1.8792E+15
Aerosols (kg)	2.9344E-05	4.0698E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5669E+18
Elemental I (atoms)	1.5728E+15	8.9334E+15
Organic I (atoms)	0.0000E+00	5.2069E+14
Aerosols (kg)	2.0897E-06	5.1526E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3963E+17
Elemental I (atoms)	2.1254E+14	1.2072E+15
Organic I (atoms)	0.0000E+00	6.8889E+13
Aerosols (kg)	1.4774E-07	1.8204E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6421E+16
Elemental I (atoms)	0.0000E+00	5.4782E+13
Organic I (atoms)	0.0000E+00	3.3323E+12
Aerosols (kg)	0.0000E+00	6.2061E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9857E+16
Elemental I (atoms)	0.0000E+00	9.9604E+13
Organic I (atoms)	0.0000E+00	6.0586E+12
Aerosols (kg)	0.0000E+00	1.1284E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	1.7605E+16	0.0000E+00
Elemental I (atoms)	6.8361E+13	0.0000E+00
Organic I (atoms)	3.5711E+12	0.0000E+00
Aerosols (kg)	7.9454E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.1652E-03	2.9970E-01	1.8639E-02
Accumulated dose (rem)	1.1057E-02	6.6305E-01	3.8308E-02

CR Air Intake Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1931E-02	1.5523E+00	9.6537E-02
Accumulated dose (rem)	5.7266E-02	3.4341E+00	1.9841E-01

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3236E-04	9.9695E-01	4.1417E-02
Accumulated dose (rem)	1.0349E-03	1.8490E+00	7.6549E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8269E+05	4.6564E-01	3.2990E+24	5.6628E+18
Kr-85m	2.6553E+06	3.2266E-04	2.2860E+21	8.4723E+19
Kr-87	3.9576E+06	1.3972E-04	9.6713E+20	1.3622E+20
Kr-88	6.8110E+06	5.4318E-04	3.7171E+21	2.2104E+20
Rb-86	1.6517E+03	2.0299E-05	1.4215E+20	1.4457E+17
Sr-89	6.3072E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90	8.7080E+03	6.3838E-02	4.2716E+23	1.7667E+17
Sr-91	7.4866E+04	2.0653E-05	1.3667E+20	1.5278E+18
Sr-92	7.1468E+04	5.6859E-06	3.7219E+19	1.4801E+18
Y-90	9.8349E+01	1.8077E-07	1.2096E+18	1.8368E+15
Y-91	8.1031E+02	3.3042E-05	2.1866E+20	1.6414E+16
Y-92	2.1882E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93	9.2754E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95	1.0708E+03	4.9845E-05	3.1597E+20	2.1726E+16
Zr-97	1.0345E+03	5.4117E-07	3.3598E+18	2.1059E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99	1.4729E+04	3.0711E-05	1.8681E+20	2.9909E+17
Tc-99m	1.3008E+04	2.4738E-06	1.5048E+19	2.6261E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105	8.0551E+03	1.1983E-06	6.8728E+18	1.6549E+17
Ru-106	5.4901E+03	1.6410E-03	9.3230E+21	1.1139E+17
Rh-105	8.4283E+03	9.9854E-06	5.7270E+19	1.7087E+17
Sb-127	1.7193E+04	6.4379E-05	3.0528E+20	3.4902E+17
Sb-129	4.6040E+04	8.1872E-06	3.8221E+19	9.4621E+17
Te-127	1.7145E+04	6.4965E-06	3.0805E+19	3.4688E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	4.6905E+16
Te-129	4.8091E+04	2.2964E-06	1.0720E+19	9.6086E+17
Te-129m	7.4967E+03	2.4885E-04	1.1617E+21	1.5209E+17
Te-131m	2.2570E+04	2.8304E-05	1.3012E+20	4.5876E+17
Te-132	2.2214E+05	7.3169E-04	3.3381E+21	4.5100E+18
I-131	8.5233E+05	6.8751E-03	3.1605E+22	6.3821E+19
I-132	1.1991E+06	1.1616E-04	5.2996E+20	9.0284E+19
I-133	1.7119E+06	1.5112E-03	6.8428E+21	1.2949E+20
I-134	1.1385E+06	4.2678E-05	1.9180E+20	1.1233E+20
I-135	1.5246E+06	4.3413E-04	1.9366E+21	1.1814E+20
Xe-133	2.1007E+07	1.1223E-01	5.0817E+23	6.5137E+20
Xe-135	8.8891E+06	3.4808E-03	1.5527E+22	2.7431E+20
Cs-134	2.0434E+05	1.5793E-01	7.0977E+23	1.7876E+19
Cs-136	4.9874E+04	6.8050E-04	3.0133E+21	4.3663E+18
Cs-137	1.2974E+05	1.4916E+00	6.5566E+24	1.1350E+19
Ba-139	8.2650E+04	5.0529E-06	2.1892E+19	1.7464E+18
Ba-140	1.1155E+05	1.5237E-03	6.5541E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3846E+02	1.6594E-07	7.0874E+17	1.9312E+16
La-142	7.5358E+02	5.2643E-08	2.2325E+17	1.5854E+16
Ce-141	2.6387E+03	9.2607E-05	3.9552E+20	5.3536E+16
Ce-143	2.4315E+03	3.6614E-06	1.5419E+19	4.9414E+16
Ce-144	2.1960E+03	6.8852E-04	2.8794E+21	4.4554E+16
Pr-143	9.5573E+02	1.4193E-05	5.9770E+19	1.9383E+16
Nd-147	4.2083E+02	5.2020E-06	2.1311E+19	8.5399E+15
Np-239	3.1141E+04	1.3424E-04	3.3824E+20	6.3244E+17
Pu-238	1.2230E+01	7.1439E-04	1.8076E+21	2.4813E+14
Pu-239	7.2457E-01	1.1657E-02	2.9373E+22	1.4700E+13
Pu-240	7.3031E-01	3.2050E-03	8.0421E+21	1.4817E+13
Pu-241	4.3534E+02	4.2261E-03	1.0560E+22	8.8324E+15
Am-241	3.0819E-01	8.9794E-05	2.2438E+20	6.2525E+12
Cm-242	6.0556E+01	1.8271E-05	4.5468E+19	1.2286E+15

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Cm-244                 7.7830E+00  9.6202E-05  2.3744E+20  1.5791E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    3.8297E+24  0.0000E+00
Elemental I (atoms)    1.9793E+21  1.2075E+22
Organic I (atoms)      3.5761E+20  0.0000E+00
Aerosols (kg)          1.7508E+00  1.1832E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.4225E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.5738E-04
Total I (Ci)                                   6.4264E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7405E+20
Elemental I (atoms)    0.0000E+00  3.9248E+17
Organic I (atoms)      0.0000E+00  4.2080E+16
Aerosols (kg)          0.0000E+00  3.8787E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7405E+20
Elemental I (atoms)    0.0000E+00  3.9248E+17
Organic I (atoms)      0.0000E+00  4.2080E+16
Aerosols (kg)          0.0000E+00  3.8787E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3680E+20
Elemental I (atoms)    0.0000E+00  1.9591E+17
Organic I (atoms)      0.0000E+00  2.1004E+16
Aerosols (kg)          0.0000E+00  1.9361E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6936E+23
Elemental I (atoms)    0.0000E+00  1.3992E+21
Organic I (atoms)      0.0000E+00  1.4895E+20
Aerosols (kg)          0.0000E+00  1.3831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6547E+23
Elemental I (atoms)    0.0000E+00  6.1354E+20
Organic I (atoms)      0.0000E+00  4.8852E+19
Aerosols (kg)          0.0000E+00  6.2255E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.5093E+00  3.8469E-06  2.7255E+19  5.5843E+10
Kr-85m                 2.2332E+01  2.7137E-09  1.9226E+16  8.2630E+11
Kr-87                  3.4877E+01  1.2313E-09  8.5229E+15  1.2904E+12
Kr-88                  5.7887E+01  4.6165E-09  3.1592E+16  2.1418E+12
Rb-86                  8.1556E-03  1.0023E-10  7.0187E+14  3.0176E+08
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Sr-89	1.1248E-02	3.8717E-10	2.6197E+15	4.1618E+08
Sr-90	1.5529E-03	1.1385E-08	7.6177E+16	5.7458E+07
Sr-91	1.3368E-02	3.6878E-12	2.4405E+13	4.9462E+08
Sr-92	1.2802E-02	1.0185E-12	6.6672E+12	4.7369E+08
Y-90	1.8279E-05	3.3596E-14	2.2480E+11	6.7631E+05
Y-91	1.4463E-04	5.8975E-12	3.9028E+13	5.3513E+06
Y-92	5.0314E-04	5.2289E-14	3.4227E+11	1.8616E+07
Y-93	1.6561E-04	4.9639E-14	3.2143E+11	6.1276E+06
Zr-95	1.9096E-04	8.8891E-12	5.6349E+13	7.0656E+06
Zr-97	1.8463E-04	9.6579E-14	5.9960E+11	6.8312E+06
Nb-95	1.9238E-04	4.9199E-12	3.1188E+13	7.1182E+06
Mo-99	2.6272E-03	5.4778E-12	3.3321E+13	9.7208E+07
Tc-99m	2.3197E-03	4.4116E-13	2.6835E+12	8.5829E+07
Ru-103	2.2318E-03	6.9151E-11	4.0431E+14	8.2575E+07
Ru-105	1.4404E-03	2.1428E-13	1.2290E+12	5.3296E+07
Ru-106	9.7908E-04	2.9265E-10	1.6626E+15	3.6226E+07
Rh-105	1.5031E-03	1.7808E-12	1.0213E+13	5.5613E+07
Sb-127	3.0664E-03	1.1483E-11	5.4448E+13	1.1346E+08
Sb-129	8.2336E-03	1.4642E-12	6.8352E+12	3.0464E+08
Te-127	3.0577E-03	1.1586E-12	5.4939E+12	1.1313E+08
Te-127m	4.1230E-04	4.3710E-11	2.0726E+14	1.5255E+07
Te-129	8.5891E-03	4.1013E-13	1.9146E+12	3.1780E+08
Te-129m	1.3369E-03	4.4378E-11	2.0717E+14	4.9466E+07
Te-131m	4.0266E-03	5.0497E-12	2.3214E+13	1.4899E+08
Te-132	3.9620E-02	1.3051E-10	5.9539E+14	1.4660E+09
I-131	4.9419E+00	3.9863E-08	1.8325E+17	1.8285E+11
I-132	6.4167E+00	6.2164E-10	2.8361E+15	2.3742E+11
I-133	9.9775E+00	8.8078E-09	3.9881E+16	3.6917E+11
I-134	7.5826E+00	2.8424E-10	1.2774E+15	2.8056E+11
I-135	8.9937E+00	2.5610E-09	1.1424E+16	3.3277E+11
Xe-133	1.7350E+02	9.2688E-07	4.1968E+18	6.4193E+12
Xe-135	7.2247E+01	2.8291E-08	1.2620E+17	2.6731E+12
Cs-134	1.0087E+00	7.7962E-07	3.5037E+18	3.7321E+10
Cs-136	2.4629E-01	3.3604E-09	1.4880E+16	9.1127E+09
Cs-137	6.4045E-01	7.3630E-06	3.2366E+19	2.3697E+10
Ba-139	1.4871E-02	9.0913E-13	3.9388E+12	5.5021E+08
Ba-140	1.9893E-02	2.7173E-10	1.1689E+15	7.3605E+08
La-140	2.6185E-04	4.7111E-13	2.0265E+12	9.6886E+06
La-141	1.6788E-04	2.9684E-14	1.2678E+11	6.2114E+06
La-142	1.3546E-04	9.4626E-15	4.0130E+10	5.0119E+06
Ce-141	4.7056E-04	1.6515E-11	7.0534E+13	1.7411E+07
Ce-143	4.3377E-04	6.5319E-13	2.7508E+12	1.6050E+07
Ce-144	3.9163E-04	1.2279E-10	5.1350E+14	1.4490E+07
Pr-143	1.7046E-04	2.5314E-12	1.0661E+13	6.3071E+06
Nd-147	7.5052E-05	9.2774E-13	3.8006E+12	2.7769E+06
Np-239	5.5548E-03	2.3944E-11	6.0332E+13	2.0553E+08
Pu-238	2.1810E-06	1.2740E-10	3.2236E+14	8.0699E+04
Pu-239	1.2922E-07	2.0789E-09	5.2382E+15	4.7810E+03
Pu-240	1.3024E-07	5.7156E-10	1.4342E+15	4.8189E+03
Pu-241	7.7636E-05	7.5366E-10	1.8832E+15	2.8725E+06
Am-241	5.4961E-08	1.6013E-11	4.0014E+13	2.0335E+03
Cm-242	1.0799E-05	3.2584E-12	8.1085E+12	3.9957E+05
Cm-244	1.3880E-06	1.7156E-11	4.2343E+13	5.1355E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.1637E+19	1.3182E+16
Elemental I (atoms)	7.5164E+16	3.1317E+13
Organic I (atoms)	5.9782E+15	2.4908E+12
Aerosols (kg)	8.1969E-06	3.4152E-09

Dose Effective (Ci) I-131 (Thyroid)	6.9089E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.7178E+00
Total I (Ci)	3.7912E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3040E+19
Elemental I (atoms)    3.8788E+15  5.2828E+16
Organic I (atoms)      0.0000E+00  4.2944E+15
Aerosols (kg)          5.0626E-05  7.0215E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5670E+18
Elemental I (atoms)    3.4662E+15  1.9688E+16
Organic I (atoms)      0.0000E+00  1.4901E+15
Aerosols (kg)          4.6080E-06  1.1362E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0384E+18
Elemental I (atoms)    4.9346E+14  2.8028E+15
Organic I (atoms)      0.0000E+00  2.0510E+14
Aerosols (kg)          3.4332E-07  4.2302E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.2708E+16
Elemental I (atoms)    0.0000E+00  1.0165E+14
Organic I (atoms)      0.0000E+00  8.0845E+12
Aerosols (kg)          0.0000E+00  1.1064E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.7652E+16
Elemental I (atoms)    0.0000E+00  1.8482E+14
Organic I (atoms)      0.0000E+00  1.4699E+13
Aerosols (kg)          0.0000E+00  2.0116E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    5.2456E+16  0.0000E+00
Elemental I (atoms)    1.5183E+14  0.0000E+00
Organic I (atoms)      1.0340E+13  0.0000E+00
Aerosols (kg)          1.6996E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.1451E-01  6.5591E+00  8.3232E-01
Accumulated dose (rem)  5.2557E-01  7.2222E+00  8.7063E-01

CR Air Intake Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6648E+00  3.3971E+01  4.3108E+00
Accumulated dose (rem)  2.7221E+00  3.7406E+01  4.5092E+00

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4134E-02	7.2286E+00	3.6515E-01
Accumulated dose (rem)	4.5169E-02	9.0776E+00	4.4170E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.4023E+05	2.3965E+00	1.6979E+25	1.0970E+20
Kr-85m	1.1118E+07	1.3510E-03	9.5718E+21	1.4224E+21
Kr-87	9.8475E+06	3.4765E-04	2.4065E+21	1.6206E+21
Kr-88	2.5316E+07	2.0190E-03	1.3817E+22	3.4225E+21
Rb-86	1.7229E+03	2.1174E-05	1.4827E+20	4.4810E+17
Sr-89	7.2212E+04	2.4856E-03	1.6819E+22	1.3825E+19
Sr-90	9.9774E+03	7.3144E-02	4.8943E+23	1.9094E+18
Sr-91	7.7828E+04	2.1470E-05	1.4208E+20	1.5716E+19
Sr-92	5.8225E+04	4.6323E-06	3.0322E+19	1.3507E+19
Y-90	1.1338E+02	2.0840E-07	1.3944E+18	2.0940E+16
Y-91	9.2802E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0811E+03	2.1628E-07	1.4157E+18	3.4679E+17
Y-93	9.6982E+02	2.9069E-07	1.8823E+18	1.9521E+17
Zr-95	1.2262E+03	5.7076E-05	3.6181E+20	2.3474E+17
Zr-97	1.1223E+03	5.8707E-07	3.6447E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3655E+17
Mo-99	1.6642E+04	3.4698E-05	2.1107E+20	3.2094E+18
Tc-99m	1.4885E+04	2.8308E-06	1.7220E+19	2.8454E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.4950E+03	1.1150E-06	6.3949E+18	1.6108E+18
Ru-106	6.2898E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6227E+03	1.1401E-05	6.5386E+19	1.8452E+18
Sb-127	1.9503E+04	7.3030E-05	3.4630E+20	3.7529E+18
Sb-129	4.2592E+04	7.5741E-06	3.5358E+19	9.1839E+18
Te-127	1.9554E+04	7.4094E-06	3.5134E+19	3.7471E+18
Te-127m	2.6493E+03	2.8086E-04	1.3318E+21	5.0698E+17
Te-129	4.7891E+04	2.2868E-06	1.0676E+19	9.8475E+18
Te-129m	8.5917E+03	2.8520E-04	1.3314E+21	1.6440E+18
Te-131m	2.5076E+04	3.1447E-05	1.4456E+20	4.8807E+18
Te-132	2.5153E+05	8.2850E-04	3.7798E+21	4.8449E+19
I-131	9.1931E+05	7.4153E-03	3.4089E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7211E+20	3.1679E+20
I-133	1.7738E+06	1.5658E-03	7.0898E+21	4.4508E+20
I-134	4.2974E+05	1.6109E-05	7.2397E+19	2.4436E+20
I-135	1.4360E+06	4.0889E-04	1.8240E+21	3.8620E+20
Xe-133	1.0777E+08	5.7577E-01	2.6070E+24	1.2593E+22
Xe-135	4.5742E+07	1.7912E-02	7.9902E+22	5.3523E+21
Cs-134	2.1357E+05	1.6507E-01	7.4185E+23	5.5464E+19
Cs-136	5.1978E+04	7.0920E-04	3.1404E+21	1.3528E+19
Cs-137	1.3561E+05	1.5591E+00	6.8533E+24	3.5216E+19
Ba-139	4.8434E+04	2.9611E-06	1.2829E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4868E+21	2.4426E+19
La-140	1.5974E+03	2.8740E-06	1.2363E+19	2.9053E+17
La-141	8.4994E+02	1.5029E-07	6.4188E+17	1.8550E+17
La-142	4.7412E+02	3.3120E-08	1.4046E+17	1.2825E+17
Ce-141	3.0226E+03	1.0608E-04	4.5307E+20	5.7855E+17
Ce-143	2.7090E+03	4.0793E-06	1.7179E+19	5.2646E+17
Ce-144	2.5158E+03	7.8878E-04	3.2987E+21	4.8151E+17
Pr-143	1.0951E+03	1.6262E-05	6.8485E+19	2.0954E+17
Nd-147	4.8049E+02	5.9395E-06	2.4332E+19	9.2132E+16
Np-239	3.5102E+04	1.5131E-04	3.8126E+20	6.7782E+18
Pu-238	1.4013E+01	8.1854E-04	2.0712E+21	2.6818E+15
Pu-239	8.3035E-01	1.3359E-02	3.3661E+22	1.5889E+14
Pu-240	8.3678E-01	3.6722E-03	9.2144E+21	1.6014E+14
Pu-241	4.9880E+02	4.8421E-03	1.2100E+22	9.5459E+16
Am-241	3.5316E-01	1.0290E-04	2.5712E+20	6.7582E+13
Cm-242	6.9367E+01	2.0930E-05	5.2083E+19	1.3277E+16
Cm-244	8.9176E+00	1.1023E-04	2.7205E+20	1.7066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9692E+25	0.0000E+00	
Elemental I (atoms)	2.0641E+21	5.3236E+22	
Organic I (atoms)	1.1513E+21	0.0000E+00	
Aerosols (kg)	1.8392E+00	4.8224E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6997E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8246E-04
Total I (Ci)			5.8532E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1575E+21
Elemental I (atoms)	0.0000E+00	7.1064E+17
Organic I (atoms)	0.0000E+00	2.1285E+17
Aerosols (kg)	0.0000E+00	6.4870E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2328E+25
Elemental I (atoms)	0.0000E+00	5.0387E+21
Organic I (atoms)	0.0000E+00	1.5054E+21
Aerosols (kg)	0.0000E+00	4.6010E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2913E+25
Elemental I (atoms)	0.0000E+00	3.6877E+21
Organic I (atoms)	0.0000E+00	9.2401E+20
Aerosols (kg)	0.0000E+00	3.4220E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.2133E+02	3.0926E-04	2.1911E+21	4.4894E+12
Kr-85m	1.5308E+03	1.8601E-07	1.3179E+18	5.6639E+13
Kr-87	1.6155E+03	5.7034E-08	3.9479E+17	5.9775E+13
Kr-88	3.6227E+03	2.8891E-07	1.9771E+18	1.3404E+14
Rb-86	7.1238E-02	8.7551E-10	6.1308E+15	2.6358E+09
Sr-89	1.6741E+00	5.7624E-08	3.8991E+17	6.1942E+10

Sr-90	2.3125E-01	1.6953E-06	1.1343E+19	8.5561E+09
Sr-91	1.8683E+00	5.1540E-10	3.4108E+15	6.9127E+10
Sr-92	1.5304E+00	1.2175E-10	7.9697E+14	5.6624E+10
Y-90	3.7651E-03	6.9203E-12	4.6306E+13	1.3931E+08
Y-91	2.1694E-02	8.8461E-10	5.8541E+15	8.0268E+08
Y-92	1.8928E-01	1.9670E-11	1.2876E+14	7.0032E+09
Y-93	2.3232E-02	6.9635E-12	4.5091E+13	8.5960E+08
Zr-95	2.8425E-02	1.3231E-09	8.3875E+15	1.0517E+09
Zr-97	2.6528E-02	1.3877E-11	8.6153E+13	9.8153E+08
Nb-95	2.8648E-02	7.3262E-10	4.6441E+15	1.0600E+09
Mo-99	3.8765E-01	8.0825E-10	4.9166E+15	1.4343E+10
Tc-99m	3.4522E-01	6.5653E-11	3.9937E+14	1.2773E+10
Ru-103	3.3212E-01	1.0291E-08	6.0166E+16	1.2288E+10
Ru-105	1.8741E-01	2.7880E-11	1.5990E+14	6.9342E+09
Ru-106	1.4578E-01	4.3575E-08	2.4756E+17	5.3940E+09
Rh-105	2.2340E-01	2.6467E-10	1.5180E+15	8.2656E+09
Sb-127	4.5364E-01	1.6987E-09	8.0550E+15	1.6785E+10
Sb-129	1.0673E+00	1.8979E-10	8.8602E+14	3.9489E+10
Te-127	4.5398E-01	1.7202E-10	8.1569E+14	1.6797E+10
Te-127m	6.1400E-02	6.5093E-09	3.0866E+16	2.2718E+09
Te-129	1.1722E+00	5.5972E-11	2.6130E+14	4.3371E+10
Te-129m	1.9912E-01	6.6096E-09	3.0856E+16	7.3673E+09
Te-131m	5.8764E-01	7.3694E-10	3.3878E+15	2.1743E+10
Te-132	5.8544E+00	1.9284E-08	8.7977E+16	2.1661E+11
I-131	5.3644E+01	4.3270E-07	1.9892E+18	1.9848E+12
I-132	6.4371E+01	6.2362E-09	2.8451E+16	2.3817E+12
I-133	1.0549E+02	9.3126E-08	4.2167E+17	3.9033E+12
I-134	4.3614E+01	1.6349E-09	7.3476E+15	1.6137E+12
I-135	8.9370E+01	2.5448E-08	1.1352E+17	3.3067E+12
Xe-133	1.3904E+04	7.4283E-05	3.3635E+20	5.1446E+14
Xe-135	5.7351E+03	2.2458E-06	1.0018E+19	2.1220E+14
Cs-134	8.8220E+00	6.8185E-06	3.0643E+19	3.2641E+11
Cs-136	2.1501E+00	2.9337E-08	1.2991E+17	7.9555E+10
Cs-137	5.6015E+00	6.4399E-05	2.8308E+20	2.0726E+11
Ba-139	1.4479E+00	8.8516E-11	3.8349E+14	5.3570E+10
Ba-140	2.9564E+00	4.0383E-08	1.7371E+17	1.0939E+11
La-140	6.0106E-02	1.0814E-10	4.6515E+14	2.2239E+09
La-141	2.1467E-02	3.7959E-12	1.6212E+13	7.9428E+08
La-142	1.3777E-02	9.6240E-13	4.0815E+12	5.0974E+08
Ce-141	7.0048E-02	2.4584E-09	1.0500E+16	2.5918E+09
Ce-143	6.3420E-02	9.5501E-11	4.0218E+14	2.3466E+09
Ce-144	5.8312E-02	1.8282E-08	7.6458E+16	2.1575E+09
Pr-143	2.5418E-02	3.7747E-10	1.5896E+15	9.4048E+08
Nd-147	1.1150E-02	1.3783E-10	5.6465E+14	4.1256E+08
Np-239	8.1835E-01	3.5275E-09	8.8884E+15	3.0279E+10
Pu-238	3.2478E-04	1.8971E-08	4.8003E+16	1.2017E+07
Pu-239	1.9244E-05	3.0960E-07	7.8011E+17	7.1202E+05
Pu-240	1.9394E-05	8.5111E-08	2.1356E+17	7.1758E+05
Pu-241	1.1561E-02	1.1223E-07	2.8043E+17	4.2775E+08
Am-241	8.1854E-06	2.3849E-09	5.9595E+15	3.0286E+05
Cm-242	1.6079E-03	4.8513E-10	1.2072E+15	5.9491E+07
Cm-244	2.0668E-04	2.5547E-09	6.3053E+15	7.6473E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s	
Noble gases (atoms)	2.5411E+21	3.5294E+17	
Elemental I (atoms)	8.2862E+17	1.1509E+14	
Organic I (atoms)	1.9644E+17	2.7284E+13	
Aerosols (kg)	7.4027E-05	1.0282E-08	
Dose Effective (Ci) I-131 (Thyroid)			7.4219E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			9.2342E+01
Total I (Ci)			3.5649E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4637E+21
Elemental I (atoms)    3.3699E+16  4.5898E+17
Organic I (atoms)      0.0000E+00  1.0972E+17
Aerosols (kg)          4.0709E-04  5.6460E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.2196E+20
Elemental I (atoms)    5.4699E+16  3.1069E+17
Organic I (atoms)      0.0000E+00  7.3829E+16
Aerosols (kg)          6.7835E-05  1.6726E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5557E+20
Elemental I (atoms)    1.0461E+16  5.9418E+16
Organic I (atoms)      0.0000E+00  1.2964E+16
Aerosols (kg)          6.8521E-06  8.4429E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8141E+18
Elemental I (atoms)    8.2411E+14  1.0997E+14
Organic I (atoms)      2.0830E+14  1.0189E+13
Aerosols (kg)          7.1974E-08  1.1791E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.8583E+17
Elemental I (atoms)    0.0000E+00  3.6749E+14
Organic I (atoms)      0.0000E+00  6.0872E+13
Aerosols (kg)          0.0000E+00  3.6070E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.5390E+18  0.0000E+00
Elemental I (atoms)    3.6780E+14  0.0000E+00
Organic I (atoms)      4.3030E+13  0.0000E+00
Aerosols (kg)          3.8381E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0299E-01  8.9191E-01  1.4715E-01
Accumulated dose (rem)  6.2856E-01  8.1141E+00  1.0178E+00

CR Air Intake Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.3493E-01  3.7666E+00  6.2144E-01
Accumulated dose (rem)  3.1570E+00  4.1172E+01  5.1307E+00

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	1.6745E-02	1.0962E+00	6.9553E-02
Accumulated dose (rem)	6.1914E-02	1.0174E+01	5.1125E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.8921E+05	2.2665E+00	1.6058E+25	1.3367E+20
Kr-85m	1.0195E+07	1.2388E-03	8.7766E+21	1.7016E+21
Kr-87	8.3513E+06	2.9483E-04	2.0408E+21	1.8586E+21
Kr-88	2.2802E+07	1.8185E-03	1.2444E+22	4.0526E+21
Rb-86	1.7700E+02	2.1753E-06	1.5233E+19	4.5633E+17
Sr-89	7.2523E+03	2.4963E-04	1.6891E+21	1.4166E+19
Sr-90	1.0022E+03	7.3468E-03	4.9160E+22	1.9565E+18
Sr-91	7.7040E+03	2.1252E-06	1.4064E+19	1.6081E+19
Sr-92	5.5566E+03	4.4208E-07	2.8937E+18	1.3776E+19
Y-90	1.5909E+01	2.9241E-08	1.9566E+17	2.1552E+16
Y-91	9.3894E+01	3.8287E-06	2.5337E+19	1.8193E+17
Y-92	6.7159E+02	6.9795E-08	4.5686E+17	3.6465E+17
Y-93	9.6084E+01	2.8800E-08	1.8649E+17	1.9976E+17
Zr-95	1.2315E+02	5.7324E-06	3.6338E+19	2.4053E+17
Zr-97	1.1180E+02	5.8485E-08	3.6310E+17	2.2661E+17
Nb-95	1.2415E+02	3.1749E-06	2.0126E+19	2.4238E+17
Mo-99	1.6681E+03	3.4779E-06	2.1156E+19	3.2879E+18
Tc-99m	1.4947E+03	2.8426E-07	1.7291E+18	2.9153E+18
Ru-103	1.4386E+03	4.4575E-05	2.6062E+20	2.8105E+18
Ru-105	7.2968E+02	1.0855E-07	6.2258E+17	1.6458E+18
Ru-106	6.3176E+02	1.8883E-04	1.0728E+21	1.2335E+18
Rh-105	9.6566E+02	1.1441E-06	6.5617E+18	1.8905E+18
Sb-127	1.9560E+03	7.3244E-06	3.4731E+19	3.8449E+18
Sb-129	4.1430E+03	7.3674E-07	3.4393E+18	9.3825E+18
Te-127	1.9627E+03	7.4372E-07	3.5266E+18	3.8391E+18
Te-127m	2.6611E+02	2.8211E-05	1.3377E+20	5.1948E+17
Te-129	4.7096E+03	2.2489E-07	1.0498E+18	1.0066E+19
Te-129m	8.6299E+02	2.8647E-05	1.3373E+20	1.6846E+18
Te-131m	2.5071E+03	3.1440E-06	1.4453E+19	4.9988E+18
Te-132	2.5219E+04	8.3070E-05	3.7898E+20	4.9635E+19
I-131	1.1456E+05	9.2406E-04	4.2479E+21	2.2904E+20
I-132	1.4640E+05	1.4183E-05	6.4706E+19	3.2334E+20
I-133	2.1974E+05	1.9398E-04	8.7831E+20	4.5449E+20
I-134	4.5755E+04	1.7152E-06	7.7081E+18	2.4650E+20
I-135	1.7536E+05	4.9935E-05	2.2275E+20	3.9377E+20
Xe-133	1.0180E+08	5.4386E-01	2.4625E+24	1.5339E+22
Xe-135	4.2477E+07	1.6633E-02	7.4199E+22	6.5070E+21
Cs-134	2.1948E+04	1.6964E-02	7.6237E+22	5.6485E+19
Cs-136	5.3393E+03	7.2850E-05	3.2258E+20	1.3776E+19
Cs-137	1.3936E+04	1.6022E-01	7.0428E+23	3.5865E+19
Ba-139	4.3994E+03	2.6896E-07	1.1653E+18	1.3903E+19
Ba-140	1.2793E+04	1.7474E-04	7.5166E+20	2.5027E+19
La-140	2.5197E+02	4.5333E-07	1.9500E+18	2.9962E+17
La-141	8.2411E+01	1.4572E-08	6.2238E+16	1.8945E+17
La-142	4.3527E+01	3.0406E-09	1.2895E+16	1.3041E+17
Ce-141	3.0353E+02	1.0653E-05	4.5498E+19	5.9281E+17
Ce-143	2.7096E+02	4.0802E-07	1.7183E+18	5.3922E+17
Ce-144	2.5269E+02	7.9226E-05	3.3133E+20	4.9338E+17
Pr-143	1.1014E+02	1.6356E-06	6.8880E+18	2.1471E+17
Nd-147	4.8237E+01	5.9626E-07	2.4427E+18	9.4400E+16
Np-239	3.5172E+03	1.5161E-05	3.8201E+19	6.9438E+18
Pu-238	1.4075E+00	8.2217E-05	2.0803E+20	2.7479E+15
Pu-239	8.3406E-02	1.3419E-03	3.3811E+21	1.6281E+14
Pu-240	8.4049E-02	3.6885E-04	9.2553E+20	1.6409E+14
Pu-241	5.0101E+01	4.8636E-04	1.2153E+21	9.7814E+16
Am-241	3.5476E-02	1.0336E-05	2.5828E+19	6.9249E+13
Cm-242	6.9672E+00	2.1022E-06	5.2312E+18	1.3604E+16
Cm-244	8.9571E-01	1.1071E-05	2.7325E+19	1.7487E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8618E+25	0.0000E+00	
Elemental I (atoms)	2.1030E+20	5.5265E+22	
Organic I (atoms)	1.0918E+21	0.0000E+00	
Aerosols (kg)	1.8875E-01	5.0034E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.8411E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.2094E-05
Total I (Ci)			7.0182E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5796E+21
Elemental I (atoms)	0.0000E+00	7.2559E+17
Organic I (atoms)	0.0000E+00	2.3760E+17
Aerosols (kg)	0.0000E+00	6.6204E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7393E+25
Elemental I (atoms)	0.0000E+00	5.2181E+21
Organic I (atoms)	0.0000E+00	1.8024E+21
Aerosols (kg)	0.0000E+00	4.7610E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6912E+25
Elemental I (atoms)	0.0000E+00	4.1678E+21
Organic I (atoms)	0.0000E+00	1.1653E+21
Aerosols (kg)	0.0000E+00	3.8528E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.4867E+02	3.7894E-04	2.6848E+21	5.5009E+12
Kr-85m	1.8466E+03	2.2438E-07	1.5897E+18	6.8323E+13
Kr-87	1.8792E+03	6.6344E-08	4.5924E+17	6.9532E+13
Kr-88	4.3321E+03	3.4548E-07	2.3643E+18	1.6029E+14
Rb-86	7.9073E-02	9.7180E-10	6.8050E+15	2.9257E+09
Sr-89	1.9386E+00	6.6730E-08	4.5152E+17	7.1730E+10
Sr-90	2.6780E-01	1.9632E-06	1.3137E+19	9.9086E+09

Sr-91	2.1503E+00	5.9320E-10	3.9256E+15	7.9562E+10
Sr-92	1.7357E+00	1.3809E-10	9.0389E+14	6.4220E+10
Y-90	4.4906E-03	8.2539E-12	5.5229E+13	1.6615E+08
Y-91	2.5142E-02	1.0252E-09	6.7845E+15	9.3025E+08
Y-92	2.2966E-01	2.3867E-11	1.5623E+14	8.4973E+09
Y-93	2.6749E-02	8.0175E-12	5.1917E+13	9.8972E+08
Zr-95	3.2917E-02	1.5322E-09	9.7130E+15	1.2179E+09
Zr-97	3.0614E-02	1.6014E-11	9.9424E+13	1.1327E+09
Nb-95	3.3176E-02	8.4842E-10	5.3782E+15	1.2275E+09
Mo-99	4.4852E-01	9.3518E-10	5.6886E+15	1.6595E+10
Tc-99m	3.9974E-01	7.6022E-11	4.6244E+14	1.4790E+10
Ru-103	3.8459E-01	1.1917E-08	6.9673E+16	1.4230E+10
Ru-105	2.1423E-01	3.1870E-11	1.8279E+14	7.9266E+09
Ru-106	1.6883E-01	5.0463E-08	2.8669E+17	6.2466E+09
Rh-105	2.5863E-01	3.0641E-10	1.7574E+15	9.5691E+09
Sb-127	5.2501E-01	1.9660E-09	9.3223E+15	1.9426E+10
Sb-129	1.2196E+00	2.1688E-10	1.0125E+15	4.5126E+10
Te-127	5.2558E-01	1.9915E-10	9.4435E+14	1.9447E+10
Te-127m	7.1106E-02	7.5383E-09	3.5745E+16	2.6309E+09
Te-129	1.3449E+00	6.4219E-11	2.9979E+14	4.9761E+10
Te-129m	2.3059E-01	7.6545E-09	3.5734E+16	8.5320E+09
Te-131m	6.7919E-01	8.5175E-10	3.9156E+15	2.5130E+10
Te-132	6.7747E+00	2.2315E-08	1.0181E+17	2.5066E+11
I-131	6.0293E+01	4.8633E-07	2.2357E+18	2.2308E+12
I-132	7.1746E+01	6.9507E-09	3.1711E+16	2.6546E+12
I-133	1.1827E+02	1.0440E-07	4.7273E+17	4.3759E+12
I-134	4.6379E+01	1.7385E-09	7.8133E+15	1.7160E+12
I-135	9.9601E+01	2.8361E-08	1.2652E+17	3.6852E+12
Xe-133	1.7031E+04	9.0985E-05	4.1197E+20	6.3014E+14
Xe-135	7.0038E+03	2.7426E-06	1.2234E+19	2.5914E+14
Cs-134	9.7934E+00	7.5693E-06	3.4017E+19	3.6236E+11
Cs-136	2.3865E+00	3.2562E-08	1.4418E+17	8.8299E+10
Cs-137	6.2183E+00	7.1490E-05	3.1425E+20	2.3008E+11
Ba-139	1.6125E+00	9.8579E-11	4.2709E+14	5.9661E+10
Ba-140	3.4231E+00	4.6758E-08	2.0113E+17	1.2665E+11
La-140	7.2235E-02	1.2996E-10	5.5902E+14	2.6727E+09
La-141	2.4500E-02	4.3321E-12	1.8502E+13	9.0648E+08
La-142	1.5401E-02	1.0759E-12	4.5626E+12	5.6983E+08
Ce-141	8.1118E-02	2.8469E-09	1.2159E+16	3.0014E+09
Ce-143	7.3314E-02	1.1040E-10	4.6492E+14	2.7126E+09
Ce-144	6.7529E-02	2.1172E-08	8.8543E+16	2.4986E+09
Pr-143	2.9440E-02	4.3720E-10	1.8412E+15	1.0893E+09
Nd-147	1.2910E-02	1.5958E-10	6.5376E+14	4.7767E+08
Np-239	9.4672E-01	4.0808E-09	1.0283E+16	3.5029E+10
Pu-238	3.7612E-04	2.1970E-08	5.5591E+16	1.3916E+07
Pu-239	2.2286E-05	3.5855E-07	9.0344E+17	8.2458E+05
Pu-240	2.2460E-05	9.8565E-08	2.4732E+17	8.3101E+05
Pu-241	1.3388E-02	1.2997E-07	3.2476E+17	4.9536E+08
Am-241	9.4795E-06	2.7619E-09	6.9016E+15	3.5074E+05
Cm-242	1.8620E-03	5.6181E-10	1.3980E+15	6.8894E+07
Cm-244	2.3935E-04	2.9585E-09	7.3019E+15	8.8561E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.1134E+21	3.9310E+17
Elemental I (atoms)	9.2954E+17	1.1737E+14
Organic I (atoms)	2.3395E+17	2.9539E+13
Aerosols (kg)	8.2298E-05	1.0391E-08

Dose Effective (Ci) I-131 (Thyroid)	8.3336E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0357E+02
Total I (Ci)	3.9629E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7649E+21
Elemental I (atoms)    3.7341E+16  5.0859E+17
Organic I (atoms)      0.0000E+00  1.2896E+17
Aerosols (kg)          4.4996E-04  6.2406E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1507E+21
Elemental I (atoms)    6.2099E+16  3.5272E+17
Organic I (atoms)      0.0000E+00  8.9178E+16
Aerosols (kg)          7.6741E-05  1.8922E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9793E+20
Elemental I (atoms)    1.2130E+16  6.8898E+16
Organic I (atoms)      0.0000E+00  1.5947E+16
Aerosols (kg)          7.9191E-06  9.7577E-07

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3295E+18
Elemental I (atoms)    9.1423E+14  1.1088E+14
Organic I (atoms)      2.4179E+14  1.0527E+13
Aerosols (kg)          7.9346E-08  1.1866E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.9892E+17
Elemental I (atoms)    0.0000E+00  3.8747E+14
Organic I (atoms)      0.0000E+00  6.8295E+13
Aerosols (kg)          0.0000E+00  3.7704E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.1732E+18  0.0000E+00
Elemental I (atoms)    4.0037E+14  0.0000E+00
Organic I (atoms)      5.1807E+13  0.0000E+00
Aerosols (kg)          4.1262E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4205E-02  4.4597E-01  7.6198E-02
Accumulated dose (rem)  6.8276E-01  8.5600E+00  1.0940E+00

CR Air Intake Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2891E-01  1.8834E+00  3.2179E-01
Accumulated dose (rem)  3.3859E+00  4.3056E+01  5.4525E+00

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.1349E-03  5.0466E-01  3.2555E-02
```

Accumulated dose (rem) 7.0049E-02 1.0678E+01 5.4380E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.7392E+05	2.2275E+00	1.5781E+25	1.4531E+20
Kr-85m	9.8655E+06	1.1988E-03	8.4933E+21	1.8340E+21
Kr-87	7.7723E+06	2.7439E-04	1.8993E+21	1.9650E+21
Kr-88	2.1870E+07	1.7441E-03	1.1935E+22	4.3474E+21
Rb-86	1.1095E+02	1.3635E-06	9.5482E+18	4.5781E+17
Sr-89	4.5056E+03	1.5509E-04	1.0494E+21	1.4226E+19
Sr-90	6.2264E+02	4.5646E-03	3.0543E+22	1.9648E+18
Sr-91	4.7517E+03	1.3108E-06	8.6747E+18	1.6144E+19
Sr-92	3.3652E+03	2.6773E-07	1.7525E+18	1.3822E+19
Y-90	1.1137E+01	2.0471E-08	1.3697E+17	2.1691E+16
Y-91	5.8524E+01	2.3864E-06	1.5793E+19	1.8270E+17
Y-92	5.3669E+02	5.5776E-08	3.6510E+17	3.7097E+17
Y-93	5.9289E+01	1.7771E-08	1.1507E+17	2.0055E+17
Zr-95	7.6509E+01	3.5614E-06	2.2576E+19	2.4154E+17
Zr-97	6.9180E+01	3.6188E-08	2.2467E+17	2.2753E+17
Nb-95	7.7135E+01	1.9726E-06	1.2504E+19	2.4341E+17
Mo-99	1.0353E+03	2.1586E-06	1.3130E+19	3.3017E+18
Tc-99m	9.2852E+02	1.7658E-07	1.0742E+18	2.9276E+18
Ru-103	8.9374E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.4633E+02	6.6398E-08	3.8082E+17	1.6518E+18
Ru-106	3.9251E+02	1.1732E-04	6.6654E+20	1.2387E+18
Rh-105	5.9967E+02	7.1046E-07	4.0748E+18	1.8985E+18
Sb-127	1.2144E+03	4.5473E-06	2.1562E+19	3.8611E+18
Sb-129	2.5331E+03	4.5045E-07	2.1029E+18	9.4165E+18
Te-127	1.2190E+03	4.6191E-07	2.1903E+18	3.8553E+18
Te-127m	1.6533E+02	1.7528E-05	8.3115E+19	5.2168E+17
Te-129	2.8947E+03	1.3822E-07	6.4527E+17	1.0104E+19
Te-129m	5.3618E+02	1.7798E-05	8.3088E+19	1.6917E+18
Te-131m	1.5541E+03	1.9489E-06	8.9591E+18	5.0195E+18
Te-132	1.5655E+04	5.1566E-05	2.3526E+20	4.9844E+19
I-131	7.9948E+04	6.4487E-04	2.9645E+21	2.3011E+20
I-132	9.7785E+04	9.4733E-06	4.3220E+19	3.2465E+20
I-133	1.5290E+05	1.3497E-04	6.1114E+20	4.5653E+20
I-134	2.9515E+04	1.1064E-06	4.9722E+18	2.4691E+20
I-135	1.2115E+05	3.4498E-05	1.5389E+20	3.9539E+20
Xe-133	9.9990E+07	5.3419E-01	2.4188E+24	1.6671E+22
Xe-135	4.1390E+07	1.6208E-02	7.2301E+22	7.0604E+21
Cs-134	1.3760E+04	1.0635E-02	4.7794E+22	5.6668E+19
Cs-136	3.3465E+03	4.5661E-05	2.0219E+20	1.3821E+19
Cs-137	8.7369E+03	1.0045E-01	4.4153E+23	3.5981E+19
Ba-139	2.5993E+03	1.5891E-07	6.8847E+17	1.3939E+19
Ba-140	7.9464E+03	1.0854E-04	4.6690E+20	2.5133E+19
La-140	1.8188E+02	3.2723E-07	1.4076E+18	3.0186E+17
La-141	5.0307E+01	8.8955E-09	3.7993E+16	1.9013E+17
La-142	2.5854E+01	1.8061E-09	7.6595E+15	1.3077E+17
Ce-141	1.8857E+02	6.6179E-06	2.8265E+19	5.9532E+17
Ce-143	1.6799E+02	2.5297E-07	1.0653E+18	5.4146E+17
Ce-144	1.5700E+02	4.9223E-05	2.0585E+20	4.9547E+17
Pr-143	6.8471E+01	1.0168E-06	4.2821E+18	2.1562E+17
Nd-147	2.9962E+01	3.7036E-07	1.5173E+18	9.4799E+16
Np-239	2.1825E+03	9.4079E-06	2.3705E+19	6.9729E+18
Pu-238	8.7450E-01	5.1081E-05	1.2925E+20	2.7596E+15
Pu-239	5.1821E-02	8.3372E-04	2.1007E+21	1.6350E+14
Pu-240	5.2220E-02	2.2917E-04	5.7503E+20	1.6479E+14
Pu-241	3.1128E+01	3.0217E-04	7.5508E+20	9.8228E+16
Am-241	2.2042E-02	6.4222E-06	1.6048E+19	6.9542E+13
Cm-242	4.3287E+00	1.3061E-06	3.2501E+18	1.3662E+16
Cm-244	5.5650E-01	6.8787E-06	1.6977E+19	1.7561E+15

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    1.8295E+25  0.0000E+00
Elemental I (atoms)    1.3136E+20  5.5506E+22
Organic I (atoms)      1.0734E+21  0.0000E+00
Aerosols (kg)          1.1827E-01  5.0251E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.0711E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0156E-05
Total I (Ci)                                   4.8130E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5741E+21
Elemental I (atoms)    0.0000E+00  1.4570E+18
Organic I (atoms)      0.0000E+00  4.9964E+17
Aerosols (kg)          0.0000E+00  1.3294E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5741E+21
Elemental I (atoms)    0.0000E+00  1.4570E+18
Organic I (atoms)      0.0000E+00  4.9964E+17
Aerosols (kg)          0.0000E+00  1.3294E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7835E+21
Elemental I (atoms)    0.0000E+00  7.2737E+17
Organic I (atoms)      0.0000E+00  2.4957E+17
Aerosols (kg)          0.0000E+00  6.6364E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9840E+25
Elemental I (atoms)    0.0000E+00  5.2394E+21
Organic I (atoms)      0.0000E+00  1.9460E+21
Aerosols (kg)          0.0000E+00  4.7802E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9040E+25
Elemental I (atoms)    0.0000E+00  4.3557E+21
Organic I (atoms)      0.0000E+00  1.2924E+21
Aerosols (kg)          0.0000E+00  4.0219E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  1.6360E+02  4.1700E-04  2.9544E+21  6.0533E+12
Kr-85m                 2.0151E+03  2.4486E-07  1.7348E+18  7.4559E+13
Kr-87                  2.0120E+03  7.1032E-08  4.9168E+17  7.4445E+13
Kr-88                  4.7057E+03  3.7528E-07  2.5682E+18  1.7411E+14
Rb-86                  8.2932E-02  1.0192E-09  7.1371E+15  3.0685E+09
Sr-89                  2.0698E+00  7.1245E-08  4.8208E+17  7.6583E+10
Sr-90                  2.8593E-01  2.0961E-06  1.4026E+19  1.0579E+10
Sr-91                  2.2887E+00  6.3136E-10  4.1782E+15  8.4681E+10
```

Sr-92	1.8336E+00	1.4588E-10	9.5491E+14	6.7845E+10
Y-90	4.8767E-03	8.9635E-12	5.9977E+13	1.8044E+08
Y-91	2.6856E-02	1.0951E-09	7.2469E+15	9.9366E+08
Y-92	2.5176E-01	2.6164E-11	1.7127E+14	9.3152E+09
Y-93	2.8475E-02	8.5349E-12	5.5267E+13	1.0536E+09
Zr-95	3.5144E-02	1.6359E-09	1.0370E+16	1.3003E+09
Zr-97	3.2628E-02	1.7068E-11	1.0596E+14	1.2073E+09
Nb-95	3.5422E-02	9.0585E-10	5.7423E+15	1.3106E+09
Mo-99	4.7867E-01	9.9802E-10	6.0709E+15	1.7711E+10
Tc-99m	4.2678E-01	8.1163E-11	4.9371E+14	1.5791E+10
Ru-103	4.1061E-01	1.2723E-08	7.4387E+16	1.5193E+10
Ru-105	2.2723E-01	3.3804E-11	1.9388E+14	8.4075E+09
Ru-106	1.8026E-01	5.3879E-08	3.0610E+17	6.6695E+09
Rh-105	2.7608E-01	3.2709E-10	1.8760E+15	1.0215E+10
Sb-127	5.6037E-01	2.0984E-09	9.9500E+15	2.0734E+10
Sb-129	1.2934E+00	2.3000E-10	1.0737E+15	4.7855E+10
Te-127	5.6107E-01	2.1260E-10	1.0081E+15	2.0760E+10
Te-127m	7.5919E-02	8.0486E-09	3.8165E+16	2.8090E+09
Te-129	1.4292E+00	6.8243E-11	3.1858E+14	5.2879E+10
Te-129m	2.4620E-01	8.1727E-09	3.8153E+16	9.1096E+09
Te-131m	7.2444E-01	9.0850E-10	4.1764E+15	2.6804E+10
Te-132	7.2305E+00	2.3816E-08	1.0866E+17	2.6753E+11
I-131	6.3624E+01	5.1320E-07	2.3592E+18	2.3541E+12
I-132	7.5331E+01	7.2979E-09	3.3295E+16	2.7872E+12
I-133	1.2464E+02	1.1003E-07	4.9820E+17	4.6117E+12
I-134	4.7609E+01	1.7847E-09	8.0205E+15	1.7615E+12
I-135	1.0465E+02	2.9799E-08	1.3293E+17	3.8720E+12
Xe-133	1.8737E+04	1.0010E-04	4.5325E+20	6.9327E+14
Xe-135	7.6914E+03	3.0118E-06	1.3435E+19	2.8458E+14
Cs-134	1.0272E+01	7.9392E-06	3.5680E+19	3.8006E+11
Cs-136	2.5029E+00	3.4150E-08	1.5122E+17	9.2606E+10
Cs-137	6.5222E+00	7.4984E-05	3.2961E+20	2.4132E+11
Ba-139	1.6881E+00	1.0321E-10	4.4713E+14	6.2461E+10
Ba-140	3.6544E+00	4.9918E-08	2.1472E+17	1.3521E+11
La-140	7.8779E-02	1.4173E-10	6.0967E+14	2.9148E+09
La-141	2.5964E-02	4.5911E-12	1.9609E+13	9.6068E+08
La-142	1.6154E-02	1.1284E-12	4.7856E+12	5.9768E+08
Ce-141	8.6608E-02	3.0396E-09	1.2982E+16	3.2045E+09
Ce-143	7.8205E-02	1.1776E-10	4.9594E+14	2.8936E+09
Ce-144	7.2100E-02	2.2605E-08	9.4536E+16	2.6677E+09
Pr-143	3.1436E-02	4.6683E-10	1.9660E+15	1.1631E+09
Nd-147	1.3782E-02	1.7037E-10	6.9794E+14	5.0995E+08
Np-239	1.0103E+00	4.3548E-09	1.0973E+16	3.7380E+10
Pu-238	4.0158E-04	2.3457E-08	5.9354E+16	1.4858E+07
Pu-239	2.3795E-05	3.8282E-07	9.6460E+17	8.8041E+05
Pu-240	2.3980E-05	1.0524E-07	2.6406E+17	8.8726E+05
Pu-241	1.4294E-02	1.3876E-07	3.4674E+17	5.2889E+08
Am-241	1.0121E-05	2.9489E-09	7.3688E+15	3.7449E+05
Cm-242	1.9880E-03	5.9983E-10	1.4927E+15	7.3557E+07
Cm-244	2.5556E-04	3.1588E-09	7.7962E+15	9.4556E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	3.4258E+21	4.1375E+17
Elemental I (atoms)	9.7999E+17	1.1836E+14
Organic I (atoms)	2.5415E+17	3.0694E+13
Aerosols (kg)	8.6374E-05	1.0432E-08

Dose Effective (Ci) I-131 (Thyroid)	8.7897E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0917E+02
Total I (Ci)	4.1585E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.9269E+21
Elemental I (atoms)    3.9102E+16  5.3256E+17
Organic I (atoms)      0.0000E+00  1.3918E+17
Aerosols (kg)          4.7073E-04  6.5286E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2773E+21
Elemental I (atoms)    6.5896E+16  3.7429E+17
Organic I (atoms)      0.0000E+00  9.7532E+16
Aerosols (kg)          8.1310E-05  2.0049E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2182E+20
Elemental I (atoms)    1.3008E+16  7.3887E+16
Organic I (atoms)      0.0000E+00  1.7598E+16
Aerosols (kg)          8.4806E-06  1.0449E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6109E+18
Elemental I (atoms)    9.5928E+14  1.1134E+14
Organic I (atoms)      2.5983E+14  1.0709E+13
Aerosols (kg)          8.2980E-08  1.1902E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.6067E+17
Elemental I (atoms)    0.0000E+00  3.9745E+14
Organic I (atoms)      0.0000E+00  7.2293E+13
Aerosols (kg)          0.0000E+00  3.8510E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    2.4925E+18  0.0000E+00
Elemental I (atoms)    4.1534E+14  0.0000E+00
Organic I (atoms)      5.6105E+13  0.0000E+00
Aerosols (kg)          4.2573E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0599E+00  7.1428E+00  1.4029E+00
Accumulated dose (rem)  1.7427E+00  1.5703E+01  2.4969E+00

CR Air Intake Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.4763E+00  3.0165E+01  5.9246E+00
Accumulated dose (rem)  7.8622E+00  7.3220E+01  1.1377E+01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4535E-01  6.6034E+00  4.6512E-01
Accumulated dose (rem)  2.1540E-01  1.7282E+01  1.0089E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.3493E+05	2.1281E+00	1.5077E+25	3.3569E+20
Kr-85m	7.2454E+06	8.8041E-04	6.2376E+21	3.7249E+21
Kr-87	2.9397E+06	1.0378E-04	7.1837E+20	3.0713E+21
Kr-88	1.3798E+07	1.1004E-03	7.5304E+21	8.2507E+21
Rb-86	1.3532E+02	1.6631E-06	1.1646E+19	5.0724E+17
Sr-89	5.4844E+03	1.8878E-04	1.2774E+21	1.6228E+19
Sr-90	7.5864E+02	5.5616E-03	3.7214E+22	2.2416E+18
Sr-91	5.1142E+03	1.4108E-06	9.3364E+18	1.8143E+19
Sr-92	2.6544E+03	2.1118E-07	1.3823E+18	1.5061E+19
Y-90	2.7461E+01	5.0473E-08	3.3773E+17	2.8823E+16
Y-91	7.3212E+01	2.9853E-06	1.9756E+19	2.0902E+17
Y-92	1.4300E+03	1.4861E-07	9.7280E+17	7.5299E+17
Y-93	6.4284E+01	1.9268E-08	1.2477E+17	2.2558E+17
Zr-95	9.3149E+01	4.3359E-06	2.7486E+19	2.7554E+17
Zr-97	7.8613E+01	4.1123E-08	2.5531E+17	2.5734E+17
Nb-95	9.3980E+01	2.4034E-06	1.5235E+19	2.7769E+17
Mo-99	1.2391E+03	2.5835E-06	1.5715E+19	3.7582E+18
Tc-99m	1.1269E+03	2.1430E-07	1.3036E+18	3.3373E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2194E+18
Ru-105	4.1706E+02	6.2043E-08	3.5584E+17	1.8284E+18
Ru-106	4.7818E+02	1.4293E-04	8.1201E+20	1.4132E+18
Rh-105	7.2236E+02	8.5582E-07	4.9085E+18	2.1637E+18
Sb-127	1.4608E+03	5.4703E-06	2.5939E+19	4.3978E+18
Sb-129	2.3495E+03	4.1781E-07	1.9505E+18	1.0416E+19
Te-127	1.4761E+03	5.5934E-07	2.6523E+18	4.3937E+18
Te-127m	2.0147E+02	2.1359E-05	1.0128E+20	5.9517E+17
Te-129	2.8922E+03	1.3810E-07	6.4472E+17	1.1257E+19
Te-129m	6.5320E+02	2.1683E-05	1.0122E+20	1.9300E+18
Te-131m	1.8206E+03	2.2831E-06	1.0496E+19	5.6983E+18
Te-132	1.8789E+04	6.1889E-05	2.8235E+20	5.6756E+19
I-131	1.0030E+05	8.0904E-04	3.7192E+21	2.6178E+20
I-132	8.2163E+04	7.9599E-06	3.6315E+19	3.5665E+20
I-133	1.8235E+05	1.6097E-04	7.2887E+20	5.1571E+20
I-134	9.7141E+03	3.6414E-07	1.6365E+18	2.5364E+20
I-135	1.2794E+05	3.6432E-05	1.6252E+20	4.3976E+20
Xe-133	9.4631E+07	5.0555E-01	2.2891E+24	3.8351E+22
Xe-135	3.4673E+07	1.3577E-02	6.0566E+22	1.5505E+22
Cs-134	1.6826E+04	1.3005E-02	5.8444E+22	6.2805E+19
Cs-136	4.0772E+03	5.5631E-05	2.4634E+20	1.5311E+19
Cs-137	1.0684E+04	1.2284E-01	5.3995E+23	3.9878E+19
Ba-139	1.3470E+03	8.2350E-08	3.5678E+17	1.4747E+19
Ba-140	9.6447E+03	1.3174E-04	5.6670E+20	2.8659E+19
La-140	4.9992E+02	8.9942E-07	3.8689E+18	4.2652E+17
La-141	4.5416E+01	8.0306E-09	3.4299E+16	2.0974E+17
La-142	1.4668E+01	1.0247E-09	4.3456E+15	1.3910E+17
Ce-141	2.2948E+02	8.0539E-06	3.4398E+19	6.7909E+17
Ce-143	1.9751E+02	2.9741E-07	1.2525E+18	6.1495E+17
Ce-144	1.9125E+02	5.9964E-05	2.5077E+20	5.6525E+17
Pr-143	8.3861E+01	1.2454E-06	5.2446E+18	2.4612E+17
Nd-147	3.6343E+01	4.4924E-07	1.8404E+18	1.0809E+17
Np-239	2.6044E+03	1.1226E-05	2.8287E+19	7.9340E+18
Pu-238	1.0655E+00	6.2239E-05	1.5748E+20	3.1483E+15
Pu-239	6.3154E-02	1.0161E-03	2.5602E+21	1.8654E+14
Pu-240	6.3625E-02	2.7922E-04	7.0063E+20	1.8800E+14
Pu-241	3.7926E+01	3.6817E-04	9.1999E+20	1.1206E+17
Am-241	2.6868E-02	7.8284E-06	1.9562E+19	7.9342E+13
Cm-242	5.2725E+00	1.5909E-06	3.9588E+18	1.5586E+16
Cm-244	6.7805E-01	8.3811E-06	2.0685E+19	2.0035E+15

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    1.7442E+25  0.0000E+00
Elemental I (atoms)    5.7758E+20  5.5506E+22
Organic I (atoms)      1.0052E+21  0.0000E+00
Aerosols (kg)          1.4458E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.0131E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.0523E-05
Total I (Ci)                                   5.0247E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4171E+22
Elemental I (atoms)    0.0000E+00  1.6465E+18
Organic I (atoms)      0.0000E+00  8.8408E+17
Aerosols (kg)          0.0000E+00  1.4166E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4171E+22
Elemental I (atoms)    0.0000E+00  1.6465E+18
Organic I (atoms)      0.0000E+00  8.8408E+17
Aerosols (kg)          0.0000E+00  1.4166E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.0914E+21
Elemental I (atoms)    0.0000E+00  8.2239E+17
Organic I (atoms)      0.0000E+00  4.4234E+17
Aerosols (kg)          0.0000E+00  7.0739E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.9535E+25
Elemental I (atoms)    0.0000E+00  6.3797E+21
Organic I (atoms)      0.0000E+00  4.2593E+21
Aerosols (kg)          0.0000E+00  5.3052E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7935E+25
Elemental I (atoms)    0.0000E+00  5.9554E+21
Organic I (atoms)      0.0000E+00  3.5644E+21
Aerosols (kg)          0.0000E+00  5.1667E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  5.2777E+02  1.3452E-03  9.5307E+21  1.9528E+13
Kr-85m                 5.5606E+03  6.7569E-07  4.7872E+18  2.0574E+14
Kr-87                  3.9836E+03  1.4064E-07  9.7348E+17  1.4739E+14
Kr-88                  1.1940E+04  9.5221E-07  6.5163E+18  4.4178E+14
Rb-86                  1.3959E-01  1.7155E-09  1.2013E+16  5.1647E+09
Sr-89                  4.0409E+00  1.3909E-07  9.4115E+17  1.4951E+11
Sr-90                  5.5845E-01  4.0940E-06  2.7394E+19  2.0663E+10
Sr-91                  4.2429E+00  1.1705E-09  7.7458E+15  1.5699E+11
Sr-92                  3.0243E+00  2.4061E-10  1.5750E+15  1.1190E+11
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Y-90	1.3047E-02	2.3981E-11	1.6046E+14	4.8274E+08
Y-91	5.2946E-02	2.1589E-09	1.4287E+16	1.9590E+09
Y-92	7.1937E-01	7.4760E-11	4.8937E+14	2.6617E+10
Y-93	5.2948E-02	1.5870E-11	1.0277E+14	1.9591E+09
Zr-95	6.8618E-02	3.1941E-09	2.0248E+16	2.5389E+09
Zr-97	6.1862E-02	3.2360E-11	2.0090E+14	2.2889E+09
Nb-95	6.9182E-02	1.7692E-09	1.1215E+16	2.5597E+09
Mo-99	9.2772E-01	1.9343E-09	1.1766E+16	3.4325E+10
Tc-99m	8.3245E-01	1.5831E-10	9.6302E+14	3.0801E+10
Ru-103	8.0154E-01	2.4836E-08	1.4521E+17	2.9657E+10
Ru-105	3.9848E-01	5.9280E-11	3.3999E+14	1.4744E+10
Ru-106	3.5204E-01	1.0523E-07	5.9781E+17	1.3025E+10
Rh-105	5.3716E-01	6.3640E-10	3.6500E+15	1.9875E+10
Sb-127	1.0885E+00	4.0758E-09	1.9327E+16	4.0273E+10
Sb-129	2.2618E+00	4.0221E-10	1.8777E+15	8.3686E+10
Te-127	1.0930E+00	4.1415E-10	1.9638E+15	4.0440E+10
Te-127m	1.4829E-01	1.5721E-08	7.4546E+16	5.4867E+09
Te-129	2.5789E+00	1.2314E-10	5.7488E+14	9.5420E+10
Te-129m	4.8087E-01	1.5962E-08	7.4518E+16	1.7792E+10
Te-131m	1.3913E+00	1.7447E-09	8.0206E+15	5.1476E+10
Te-132	1.4030E+01	4.6214E-08	2.1084E+17	5.1912E+11
I-131	1.1761E+02	9.4866E-07	4.3610E+18	4.3516E+12
I-132	1.2387E+02	1.2001E-08	5.4750E+16	4.5833E+12
I-133	2.2523E+02	1.9882E-07	9.0026E+17	8.3335E+12
I-134	5.8296E+01	2.1853E-09	9.8208E+15	2.1569E+12
I-135	1.7955E+02	5.1127E-08	2.2807E+17	6.6434E+12
Xe-133	6.0154E+04	3.2136E-04	1.4551E+21	2.2257E+15
Xe-135	2.3468E+04	9.1896E-06	4.0993E+19	8.6831E+14
Cs-134	1.7307E+01	1.3377E-05	6.0118E+19	6.4038E+11
Cs-136	4.2108E+00	5.7454E-08	2.5441E+17	1.5580E+11
Cs-137	1.0990E+01	1.2634E-04	5.5537E+20	4.0662E+11
Ba-139	2.4478E+00	1.4965E-10	6.4835E+14	9.0569E+10
Ba-140	7.1256E+00	9.7333E-08	4.1868E+17	2.6365E+11
La-140	2.2459E-01	4.0407E-10	1.7381E+15	8.3100E+09
La-141	4.4947E-02	7.9477E-12	3.3945E+13	1.6630E+09
La-142	2.4018E-02	1.6778E-12	7.1156E+12	8.8868E+08
Ce-141	1.6908E-01	5.9341E-09	2.5345E+16	6.2561E+09
Ce-143	1.5042E-01	2.2650E-10	9.5387E+14	5.5654E+09
Ce-144	1.4081E-01	4.4148E-08	1.8463E+17	5.2099E+09
Pr-143	6.1510E-02	9.1344E-10	3.8468E+15	2.2759E+09
Nd-147	2.6866E-02	3.3210E-10	1.3605E+15	9.9406E+08
Np-239	1.9555E+00	8.4292E-09	2.1239E+16	7.2354E+10
Pu-238	7.8433E-04	4.5815E-08	1.1593E+17	2.9020E+07
Pu-239	4.6479E-05	7.4777E-07	1.8842E+18	1.7197E+06
Pu-240	4.6836E-05	2.0554E-07	5.1575E+17	1.7329E+06
Pu-241	2.7918E-02	2.7102E-07	6.7723E+17	1.0330E+09
Am-241	1.9771E-05	5.7606E-09	1.4395E+16	7.3154E+05
Cm-242	3.8823E-03	1.1714E-09	2.9150E+15	1.4365E+08
Cm-244	4.9913E-04	6.1695E-09	1.5227E+16	1.8468E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1039E+22	7.6660E+17	
Elemental I (atoms)	1.7746E+18	1.2324E+14	
Organic I (atoms)	7.2087E+17	5.0060E+13	
Aerosols (kg)	1.4635E-04	1.0163E-08	
Dose Effective (Ci) I-131 (Thyroid)			1.6109E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.9821E+02
Total I (Ci)			7.0456E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5487E+21

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Elemental I (atoms)    6.4570E+16  8.7944E+17
Organic I (atoms)      0.0000E+00  3.5875E+17
Aerosols (kg)          7.6268E-04  1.0578E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5596E+21
Elemental I (atoms)    1.2758E+17  7.2468E+17
Organic I (atoms)      0.0000E+00  3.0003E+17
Aerosols (kg)          1.5482E-04  3.8174E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3187E+20
Elemental I (atoms)    3.0354E+16  1.7241E+17
Organic I (atoms)      0.0000E+00  6.2945E+16
Aerosols (kg)          1.9529E-05  2.4063E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0467E+19
Elemental I (atoms)    1.6687E+15  1.1851E+14
Organic I (atoms)      6.7651E+14  1.4918E+13
Aerosols (kg)          1.3645E-07  1.2442E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3653E+18
Elemental I (atoms)    0.0000E+00  5.5470E+14
Organic I (atoms)      0.0000E+00  1.6466E+14
Aerosols (kg)          0.0000E+00  5.0362E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    9.5676E+18  0.0000E+00
Elemental I (atoms)    6.0885E+14  0.0000E+00
Organic I (atoms)      1.4116E+14  0.0000E+00
Aerosols (kg)          5.8369E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2562E+00  1.3190E+01  2.8310E+00
Accumulated dose (rem)  3.9990E+00  2.8893E+01  5.3278E+00

CR Air Intake Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.5283E+00  5.5703E+01  1.1955E+01
Accumulated dose (rem)  1.7391E+01  1.2892E+02  2.3333E+01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.4043E-01  1.0990E+01  8.3118E-01
Accumulated dose (rem)  5.5583E-01  2.8272E+01  1.8401E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	8.3370E+05	2.1250E+00	1.5055E+25	7.8018E+20
Kr-85m	3.8962E+06	4.7344E-04	3.3542E+21	6.6011E+21
Kr-87	3.3172E+05	1.1711E-05	8.1062E+19	3.7081E+21
Kr-88	5.1902E+06	4.1392E-04	2.8326E+21	1.2941E+22
Rb-86	1.6563E+02	2.0356E-06	1.4255E+19	5.9476E+17
Sr-89	6.7391E+03	2.3197E-04	1.5696E+21	1.9782E+19
Sr-90	9.3432E+02	6.8495E-03	4.5832E+22	2.7337E+18
Sr-91	4.7043E+03	1.2977E-06	8.5881E+18	2.1017E+19
Sr-92	1.1752E+03	9.3496E-08	6.1200E+17	1.6133E+19
Y-90	7.2020E+01	1.3237E-07	8.8575E+17	5.6607E+16
Y-91	9.4514E+01	3.8540E-06	2.5505E+19	2.5771E+17
Y-92	1.8552E+03	1.9280E-07	1.2621E+18	1.7686E+18
Y-93	6.0166E+01	1.8034E-08	1.1677E+17	2.6199E+17
Zr-95	1.1451E+02	5.3305E-06	3.3790E+19	3.3591E+17
Zr-97	8.2170E+01	4.2983E-08	2.6686E+17	3.0434E+17
Nb-95	1.1574E+02	2.9598E-06	1.8762E+19	3.3866E+17
Mo-99	1.4633E+03	3.0509E-06	1.8559E+19	4.5452E+18
Tc-99m	1.3630E+03	2.5921E-07	1.5768E+18	4.0584E+18
Ru-103	1.3355E+03	4.1381E-05	2.4194E+20	3.9239E+18
Ru-105	2.7508E+02	4.0922E-08	2.3471E+17	2.0289E+18
Ru-106	5.8873E+02	1.7597E-04	9.9975E+20	1.7233E+18
Rh-105	8.5128E+02	1.0086E-06	5.7845E+18	2.6226E+18
Sb-127	1.7460E+03	6.5380E-06	3.1002E+19	5.3313E+18
Sb-129	1.5231E+03	2.7084E-07	1.2644E+18	1.1537E+19
Te-127	1.7882E+03	6.7758E-07	3.2130E+18	5.3403E+18
Te-127m	2.4821E+02	2.6314E-05	1.2478E+20	7.2590E+17
Te-129	2.1795E+03	1.0407E-07	4.8584E+17	1.2700E+19
Te-129m	8.0333E+02	2.6666E-05	1.2449E+20	2.3535E+18
Te-131m	2.0442E+03	2.5636E-06	1.1785E+19	6.8259E+18
Te-132	2.2334E+04	7.3567E-05	3.3563E+20	6.8729E+19
I-131	1.1398E+05	9.1939E-04	4.2265E+21	3.2246E+20
I-132	4.4519E+04	4.3129E-06	1.9677E+19	3.9062E+20
I-133	1.8395E+05	1.6238E-04	7.3525E+20	6.1968E+20
I-134	4.7376E+02	1.7759E-08	7.9813E+16	2.5540E+20
I-135	9.6945E+04	2.7605E-05	1.2314E+20	5.0333E+20
Xe-133	9.2436E+07	4.9383E-01	2.2360E+24	8.8179E+22
Xe-135	2.5546E+07	1.0004E-02	4.4625E+22	3.1422E+22
Cs-134	2.0719E+04	1.6014E-02	7.1968E+22	7.3720E+19
Cs-136	4.9774E+03	6.7913E-05	3.0072E+20	1.7944E+19
Cs-137	1.3159E+04	1.5128E-01	6.6499E+23	4.6810E+19
Ba-139	2.2194E+02	1.3568E-08	5.8784E+16	1.5119E+19
Ba-140	1.1771E+04	1.6079E-04	6.9164E+20	3.4887E+19
La-140	1.3621E+03	2.4505E-06	1.0541E+19	9.4663E+17
La-141	2.7624E+01	4.8845E-09	2.0862E+16	2.3080E+17
La-142	2.9909E+00	2.0893E-10	8.8606E+14	1.4347E+17
Ce-141	2.8177E+02	9.8889E-06	4.2236E+19	8.2774E+17
Ce-143	2.2364E+02	3.3677E-07	1.4182E+18	7.3780E+17
Ce-144	2.3545E+02	7.3821E-05	3.0872E+20	6.8930E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	3.0082E+17
Nd-147	4.4291E+01	5.4749E-07	2.2429E+18	1.3154E+17
Np-239	3.0540E+03	1.3164E-05	3.3170E+19	9.5824E+18
Pu-238	1.3123E+00	7.6654E-05	1.9396E+20	3.8395E+15
Pu-239	7.7821E-02	1.2520E-03	3.1547E+21	2.2752E+14
Pu-240	7.8360E-02	3.4389E-04	8.6289E+20	2.2927E+14
Pu-241	4.6709E+01	4.5343E-04	1.1330E+21	1.3667E+17
Am-241	3.3125E-02	9.6513E-06	2.4117E+19	9.6781E+13
Cm-242	6.4890E+00	1.9579E-06	4.8722E+18	1.9005E+16
Cm-244	8.3506E-01	1.0322E-05	2.5475E+19	2.4434E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	1.7342E+25	0.0000E+00

```
Elemental I (atoms)    5.5105E+20  5.5506E+22
Organic I (atoms)      9.5631E+20  0.0000E+00
Aerosols (kg)          1.7802E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.4894E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.4246E-05
Total I (Ci)                                   4.3987E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9504E+22
Elemental I (atoms)    0.0000E+00  2.1444E+18
Organic I (atoms)      0.0000E+00  1.7483E+18
Aerosols (kg)          0.0000E+00  1.5715E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9504E+22
Elemental I (atoms)    0.0000E+00  2.1444E+18
Organic I (atoms)      0.0000E+00  1.7483E+18
Aerosols (kg)          0.0000E+00  1.5715E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4780E+22
Elemental I (atoms)    0.0000E+00  1.0720E+18
Organic I (atoms)      0.0000E+00  8.7567E+17
Aerosols (kg)          0.0000E+00  7.8503E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6180E+26
Elemental I (atoms)    0.0000E+00  9.3754E+21
Organic I (atoms)      0.0000E+00  9.4593E+21
Aerosols (kg)          0.0000E+00  6.2369E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5021E+26
Elemental I (atoms)    0.0000E+00  8.9533E+21
Organic I (atoms)      0.0000E+00  8.7651E+21
Aerosols (kg)          0.0000E+00  6.1323E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  1.8945E+03  4.8289E-03  3.4212E+22  7.0097E+13
Kr-85m                 1.4171E+04  1.7220E-06  1.2200E+19  5.2434E+14
Kr-87                  5.7676E+03  2.0362E-07  1.4094E+18  2.1340E+14
Kr-88                  2.5765E+04  2.0548E-06  1.4061E+19  9.5331E+14
Rb-86                  2.1509E-01  2.6435E-09  1.8511E+16  7.9584E+09
Sr-89                  6.7769E+00  2.3327E-07  1.5784E+18  2.5075E+11
Sr-90                  9.3730E-01  6.8714E-06  4.5978E+19  3.4680E+10
Sr-91                  6.4899E+00  1.7903E-09  1.1848E+16  2.4012E+11
Sr-92                  3.8955E+00  3.0992E-10  2.0287E+15  1.4413E+11
Y-90                   3.4498E-02  6.3408E-11  4.2428E+14  1.2764E+09
```

Y-91	9.0461E-02	3.6887E-09	2.4411E+16	3.3471E+09
Y-92	1.5483E+00	1.6091E-10	1.0533E+15	5.7289E+10
Y-93	8.1402E-02	2.4399E-11	1.5799E+14	3.0119E+09
Zr-95	1.1510E-01	5.3577E-09	3.3963E+16	4.2586E+09
Zr-97	9.8362E-02	5.1453E-11	3.1944E+14	3.6394E+09
Nb-95	1.1611E-01	2.9694E-09	1.8823E+16	4.2962E+09
Mo-99	1.5349E+00	3.2004E-09	1.9468E+16	5.6793E+10
Tc-99m	1.3911E+00	2.6456E-10	1.6093E+15	5.1472E+10
Ru-103	1.3440E+00	4.1642E-08	2.4347E+17	4.9726E+10
Ru-105	5.5814E-01	8.3032E-11	4.7622E+14	2.0651E+10
Ru-106	5.9080E-01	1.7659E-07	1.0033E+18	2.1860E+10
Rh-105	8.9142E-01	1.0561E-09	6.0572E+15	3.2982E+10
Sb-127	1.8082E+00	6.7710E-09	3.2107E+16	6.6904E+10
Sb-129	3.1551E+00	5.6106E-10	2.6192E+15	1.1674E+11
Te-127	1.8248E+00	6.9146E-10	3.2788E+15	6.7519E+10
Te-127m	2.4892E-01	2.6389E-08	1.2513E+17	9.2099E+09
Te-129	3.7464E+00	1.7889E-10	8.3513E+14	1.3862E+11
Te-129m	8.0690E-01	2.6785E-08	1.2504E+17	2.9855E+10
Te-131m	2.2636E+00	2.8387E-09	1.3050E+16	8.3754E+10
Te-132	2.3265E+01	7.6633E-08	3.4962E+17	8.6081E+11
I-131	2.2081E+02	1.7811E-06	8.1877E+18	8.1699E+12
I-132	1.7948E+02	1.7388E-08	7.9327E+16	6.6408E+12
I-133	4.0231E+02	3.5514E-07	1.6080E+18	1.4885E+13
I-134	6.1396E+01	2.3015E-09	1.0343E+16	2.2716E+12
I-135	2.8818E+02	8.2059E-08	3.6605E+17	1.0663E+13
Xe-133	2.1321E+05	1.1390E-03	5.1575E+21	7.8887E+15
Xe-135	7.1641E+04	2.8053E-05	1.2514E+20	2.6507E+15
Cs-134	2.6721E+01	2.0653E-05	9.2815E+19	9.8867E+11
Cs-136	6.4831E+00	8.8457E-08	3.9169E+17	2.3987E+11
Cs-137	1.6968E+01	1.9507E-04	8.5748E+20	6.2780E+11
Ba-139	2.7645E+00	1.6901E-10	7.3222E+14	1.0228E+11
Ba-140	1.1922E+01	1.6286E-07	7.0053E+17	4.4113E+11
La-140	6.2648E-01	1.1271E-09	4.8483E+15	2.3180E+10
La-141	6.1782E-02	1.0925E-11	4.6659E+13	2.2860E+09
La-142	2.7704E-02	1.9353E-12	8.2076E+12	1.0251E+09
Ce-141	2.8352E-01	9.9504E-09	4.2499E+16	1.0490E+10
Ce-143	2.4541E-01	3.6955E-10	1.5563E+15	9.0803E+09
Ce-144	2.3630E-01	7.4087E-08	3.0984E+17	8.7431E+09
Pr-143	1.0362E-01	1.5388E-09	6.4803E+15	3.8340E+09
Nd-147	4.4930E-02	5.5539E-10	2.2753E+15	1.6624E+09
Np-239	3.2278E+00	1.3913E-08	3.5058E+16	1.1943E+11
Pu-238	1.3164E-03	7.6896E-08	1.9457E+17	4.8708E+07
Pu-239	7.8025E-05	1.2553E-06	3.1630E+18	2.8869E+06
Pu-240	7.8609E-05	3.4498E-07	8.6563E+17	2.9086E+06
Pu-241	4.6858E-02	4.5488E-07	1.1367E+18	1.7338E+09
Am-241	3.3196E-05	9.6719E-09	2.4168E+16	1.2282E+06
Cm-242	6.5145E-03	1.9656E-09	4.8913E+15	2.4104E+08
Cm-244	8.3774E-04	1.0355E-08	2.5557E+16	3.0996E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.9522E+22	1.3723E+18	
Elemental I (atoms)	3.2035E+18	1.1123E+14	
Organic I (atoms)	2.3479E+18	8.1525E+13	
Aerosols (kg)	2.2675E-04	7.8732E-09	
Dose Effective (Ci) I-131 (Thyroid)			2.9725E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			3.5983E+02
Total I (Ci)			1.1522E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7784E+22
Elemental I (atoms)	1.0923E+17	1.4876E+18

```
Organic I (atoms)      0.0000E+00  1.0565E+18
Aerosols (kg)          1.1520E-03  1.5977E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7056E+22
Elemental I (atoms)    2.2917E+17  1.3017E+18
Organic I (atoms)      0.0000E+00  1.0135E+18
Aerosols (kg)          2.4962E-04  6.1550E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6853E+21
Elemental I (atoms)    7.3565E+16  4.1785E+17
Organic I (atoms)      0.0000E+00  2.8077E+17
Aerosols (kg)          4.4109E-05  5.4350E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6118E+19
Elemental I (atoms)    2.9441E+15  1.3139E+14
Organic I (atoms)      2.1288E+15  2.9587E+13
Aerosols (kg)          2.0812E-07  1.3166E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.9942E+18
Elemental I (atoms)    0.0000E+00  8.3741E+14
Organic I (atoms)      0.0000E+00  4.8656E+14
Aerosols (kg)          0.0000E+00  6.6248E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    3.8742E+19  0.0000E+00
Elemental I (atoms)    9.2064E+14  0.0000E+00
Organic I (atoms)      4.5648E+14  0.0000E+00
Aerosols (kg)          7.7483E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6799E+00  3.8239E+01  5.1435E+00
Accumulated dose (rem)  7.6788E+00  6.7131E+01  1.0471E+01

CR Air Intake Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.5827E+00  6.8403E+01  9.2010E+00
Accumulated dose (rem)  2.3973E+01  1.9733E+02  3.2533E+01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7450E-01  1.3786E+01  8.0773E-01
Accumulated dose (rem)  8.3033E-01  4.2058E+01  2.6478E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.2923E+05	2.1136E+00	1.4974E+25	2.5520E+21
Kr-85m	3.2601E+05	3.9614E-05	2.8066E+20	9.6679E+21
Kr-87	5.3818E+01	1.9000E-09	1.3152E+16	3.7891E+21
Kr-88	1.0398E+05	8.2922E-06	5.6746E+19	1.5713E+22
Rb-86	1.6073E+02	1.9753E-06	1.3832E+19	9.4246E+17
Sr-89	6.6424E+03	2.2864E-04	1.5471E+21	3.4039E+19
Sr-90	9.2933E+02	6.8130E-03	4.5587E+22	4.7194E+18
Sr-91	1.4561E+03	4.0169E-07	2.6582E+18	2.6919E+19
Sr-92	1.9521E+01	1.5531E-09	1.0166E+16	1.6734E+19
Y-90	2.0870E+02	3.8360E-07	2.5667E+18	3.5220E+17
Y-91	1.0239E+02	4.1752E-06	2.7630E+19	4.6901E+17
Y-92	1.8990E+02	1.9735E-08	1.2918E+17	3.4994E+18
Y-93	1.9960E+01	5.9827E-09	3.8741E+16	3.3964E+17
Zr-95	1.1309E+02	5.2641E-06	3.3370E+19	5.7842E+17
Zr-97	4.2404E+01	2.2182E-08	1.3771E+17	4.3243E+17
Nb-95	1.1509E+02	2.9432E-06	1.8657E+19	5.8452E+17
Mo-99	1.2304E+03	2.5654E-06	1.5605E+19	7.4081E+18
Tc-99m	1.2320E+03	2.3429E-07	1.4252E+18	6.7213E+18
Ru-103	1.3129E+03	4.0681E-05	2.3785E+20	6.7457E+18
Ru-105	2.2509E+01	3.3486E-09	1.9206E+16	2.2439E+18
Ru-106	5.8489E+02	1.7482E-04	9.9322E+20	2.9738E+18
Rh-105	6.4442E+02	7.6348E-07	4.3789E+18	4.2161E+18
Sb-127	1.5403E+03	5.7678E-06	2.7350E+19	8.8281E+18
Sb-129	1.1628E+02	2.0677E-08	9.6527E+16	1.2702E+19
Te-127	1.6663E+03	6.3138E-07	2.9939E+18	8.9275E+18
Te-127m	2.4710E+02	2.6196E-05	1.2422E+20	1.2536E+18
Te-129	8.4628E+02	4.0410E-08	1.8865E+17	1.4996E+19
Te-129m	7.8980E+02	2.6217E-05	1.2239E+20	4.0515E+18
Te-131m	1.4050E+03	1.7620E-06	8.0999E+18	1.0459E+19
Te-132	1.9279E+04	6.3502E-05	2.8971E+20	1.1299E+20
I-131	1.0712E+05	8.6404E-04	3.9720E+21	5.5796E+20
I-132	2.3071E+04	2.2351E-06	1.0197E+19	4.4430E+20
I-133	1.0736E+05	9.4770E-05	4.2911E+20	9.2277E+20
I-134	1.5107E-03	5.6629E-14	2.5450E+11	2.5548E+20
I-135	1.8012E+04	5.1289E-06	2.2879E+19	6.0327E+20
Xe-133	8.4204E+07	4.4985E-01	2.0369E+24	2.7625E+23
Xe-135	7.5261E+06	2.9471E-03	1.3146E+22	6.2845E+22
Cs-134	2.0597E+04	1.5919E-02	7.1544E+22	1.1774E+20
Cs-136	4.7795E+03	6.5212E-05	2.8876E+20	2.8338E+19
Cs-137	1.3089E+04	1.5048E-01	6.6145E+23	7.4775E+19
Ba-139	7.0713E-02	4.3231E-12	1.8730E+13	1.5178E+19
Ba-140	1.1292E+04	1.5424E-04	6.6347E+20	5.9457E+19
La-140	3.8124E+03	6.8589E-06	2.9504E+19	6.4466E+18
La-141	1.6346E+00	2.8904E-10	1.2345E+15	2.5039E+17
La-142	2.2351E-03	1.5613E-13	6.6215E+11	1.4435E+17
Ce-141	2.7645E+02	9.7023E-06	4.1439E+19	1.4225E+18
Ce-143	1.5896E+02	2.3938E-07	1.0081E+18	1.1415E+18
Ce-144	2.3382E+02	7.3311E-05	3.0659E+20	1.1893E+18
Pr-143	1.0668E+02	1.5843E-06	6.6718E+18	5.2581E+17
Nd-147	4.2241E+01	5.2215E-07	2.1391E+18	2.2372E+17
Np-239	2.4966E+03	1.0762E-05	2.7116E+19	1.5476E+19
Pu-238	1.3054E+00	7.6253E-05	1.9294E+20	6.6286E+15
Pu-239	7.7554E-02	1.2477E-03	3.1439E+21	3.9307E+14
Pu-240	7.7946E-02	3.4207E-04	8.5833E+20	3.9581E+14
Pu-241	4.6457E+01	4.5099E-04	1.1269E+21	2.3593E+17
Am-241	3.3086E-02	9.6399E-06	2.4088E+19	1.6732E+14
Cm-242	6.4364E+00	1.9420E-06	4.8327E+18	3.2777E+16
Cm-244	8.3059E-01	1.0267E-05	2.5339E+19	4.2181E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.7025E+25	0.0000E+00
Elemental I (atoms)	4.7868E+20	5.5506E+22

```
Organic I (atoms)      8.3071E+20  0.0000E+00
Aerosols (kg)          1.7694E-01  5.0845E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6707E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1354E-05
Total I (Ci)                                   2.5556E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0102E+22
Elemental I (atoms)    0.0000E+00  3.9535E+18
Organic I (atoms)      0.0000E+00  4.8878E+18
Aerosols (kg)          0.0000E+00  2.1974E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0102E+22
Elemental I (atoms)    0.0000E+00  3.9535E+18
Organic I (atoms)      0.0000E+00  4.8878E+18
Aerosols (kg)          0.0000E+00  2.1974E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5165E+22
Elemental I (atoms)    0.0000E+00  1.9792E+18
Organic I (atoms)      0.0000E+00  2.4499E+18
Aerosols (kg)          0.0000E+00  1.0989E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2642E+26
Elemental I (atoms)    0.0000E+00  2.0261E+22
Organic I (atoms)      0.0000E+00  2.8350E+22
Aerosols (kg)          0.0000E+00  1.0003E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1490E+26
Elemental I (atoms)    0.0000E+00  1.9841E+22
Organic I (atoms)      0.0000E+00  2.7659E+22
Aerosols (kg)          0.0000E+00  9.8992E+00
```

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	8.1701E-03	2.5694E-10	2.6678E+15	3.0229E+08
Co-60	9.8119E-03	8.6802E-09	8.7122E+16	3.6304E+08
Kr-85	8.9597E+03	2.2837E-02	1.6180E+23	3.3151E+14
Kr-85m	2.5643E+04	3.1159E-06	2.2076E+19	9.4877E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.5924E+04	2.8649E-06	1.9606E+19	1.3292E+15
Rb-86	3.3595E-01	4.1288E-09	2.8912E+16	1.2430E+10
Sr-89	1.1589E+01	3.9891E-07	2.6992E+18	4.2881E+11
Sr-90	1.6074E+00	1.1784E-05	7.8849E+19	5.9474E+10
Sr-91	8.5478E+00	2.3580E-09	1.5605E+16	3.1627E+11
Sr-92	4.1268E+00	3.2832E-10	2.1491E+15	1.5269E+11
Y-90	1.3484E-01	2.4783E-10	1.6583E+15	4.9889E+09
Y-91	1.6177E-01	6.5965E-09	4.3654E+16	5.9855E+09

Y-92	2.1843E+00	2.2701E-10	1.4859E+15	8.0820E+10
Y-93	1.0842E-01	3.2496E-11	2.1042E+14	4.0114E+09
Zr-95	1.9695E-01	9.1676E-09	5.8114E+16	7.2870E+09
Zr-97	1.4233E-01	7.4453E-11	4.6223E+14	5.2662E+09
Nb-95	1.9911E-01	5.0919E-09	3.2278E+16	7.3671E+09
Mo-99	2.5049E+00	5.2227E-09	3.1769E+16	9.2681E+10
Tc-99m	2.3271E+00	4.4256E-10	2.6921E+15	8.6102E+10
Ru-103	2.2965E+00	7.1155E-08	4.1603E+17	8.4969E+10
Ru-105	6.3661E-01	9.4705E-11	5.4317E+14	2.3555E+10
Ru-106	1.0128E+00	3.0273E-07	1.7199E+18	3.7474E+10
Rh-105	1.4329E+00	1.6976E-09	9.7363E+15	5.3016E+10
Sb-127	2.9916E+00	1.1202E-08	5.3119E+16	1.1069E+11
Sb-129	3.5814E+00	6.3687E-10	2.9731E+15	1.3251E+11
Te-127	3.0679E+00	1.1625E-09	5.5123E+15	1.1351E+11
Te-127m	4.2701E-01	4.5270E-08	2.1466E+17	1.5799E+10
Te-129	4.6860E+00	2.2376E-10	1.0446E+15	1.7338E+11
Te-129m	1.3801E+00	4.5811E-08	2.1386E+17	5.1063E+10
Te-131m	3.5007E+00	4.3901E-09	2.0182E+16	1.2953E+11
Te-132	3.8250E+01	1.2599E-07	5.7481E+17	1.4153E+12
I-131	5.4373E+02	4.3858E-06	2.0162E+19	2.0118E+13
I-132	2.4723E+02	2.3952E-08	1.0927E+17	9.1476E+12
I-133	8.1519E+02	7.1962E-07	3.2584E+18	3.0162E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.2306E+02	1.2046E-07	5.3737E+17	1.5653E+13
Xe-133	9.6099E+05	5.1340E-03	2.3246E+22	3.5557E+16
Xe-135	1.9248E+05	7.5373E-05	3.3623E+20	7.1218E+15
Cs-134	4.2011E+01	3.2470E-05	1.4592E+20	1.5544E+12
Cs-136	1.0097E+01	1.3777E-07	6.1004E+17	3.7359E+11
Cs-137	2.6681E+01	3.0674E-04	1.3483E+21	9.8719E+11
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	2.0221E+01	2.7621E-07	1.1881E+18	7.4817E+11
La-140	2.4964E+00	4.4913E-09	1.9319E+16	9.2366E+10
La-141	6.9012E-02	1.2203E-11	5.2119E+13	2.5534E+09
La-142	2.8071E-02	1.9609E-12	8.3163E+12	1.0386E+09
Ce-141	4.8431E-01	1.6997E-08	7.2595E+16	1.7919E+10
Ce-143	3.8279E-01	5.7641E-10	2.4274E+15	1.4163E+10
Ce-144	4.0504E-01	1.2699E-07	5.3108E+17	1.4986E+10
Pr-143	1.7960E-01	2.6672E-09	1.1232E+16	6.6453E+09
Nd-147	7.6068E-02	9.4029E-10	3.8521E+15	2.8145E+09
Np-239	5.2261E+00	2.2527E-08	5.6762E+16	1.9337E+11
Pu-238	2.2577E-03	1.3188E-07	3.3369E+17	8.3533E+07
Pu-239	1.3389E-04	2.1541E-06	5.4277E+18	4.9540E+06
Pu-240	1.3481E-04	5.9162E-07	1.4845E+18	4.9880E+06
Pu-241	8.0357E-02	7.8007E-07	1.9492E+18	2.9732E+09
Am-241	5.7000E-05	1.6608E-08	4.1500E+16	2.1090E+06
Cm-242	1.1162E-02	3.3679E-09	8.3810E+15	4.1300E+08
Cm-244	1.4366E-03	1.7758E-08	4.3828E+16	5.3156E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.8542E+23	2.1461E+18	
Elemental I (atoms)	7.0414E+18	8.1498E+13	
Organic I (atoms)	9.8681E+18	1.1421E+14	
Aerosols (kg)	3.5789E-04	4.1423E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.9320E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			8.0678E+02
Total I (Ci)			2.0907E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7076E+22
Elemental I (atoms)	2.8011E+17	3.1926E+18
Organic I (atoms)	0.0000E+00	4.1297E+18

```
Aerosols (kg)          1.8136E-03  2.5153E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6943E+22
Elemental I (atoms)    5.7558E+17  2.7200E+18
Organic I (atoms)      0.0000E+00  4.1166E+18
Aerosols (kg)          3.8512E-04  9.4959E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1493E+22
Elemental I (atoms)    2.5365E+17  1.1552E+18
Organic I (atoms)      0.0000E+00  1.6707E+18
Aerosols (kg)          9.2600E-05  1.1410E-05

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1801E+19
Elemental I (atoms)    4.4019E+15  1.4611E+14
Organic I (atoms)      4.9859E+15  5.8447E+13
Aerosols (kg)          2.5764E-07  1.3666E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0214E+19
Elemental I (atoms)    0.0000E+00  1.1605E+15
Organic I (atoms)      0.0000E+00  1.1199E+15
Aerosols (kg)          0.0000E+00  7.7226E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.0928E+20  0.0000E+00
Elemental I (atoms)    1.2851E+15  0.0000E+00
Organic I (atoms)      1.1463E+15  0.0000E+00
Aerosols (kg)          9.0514E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0511E+00  2.2935E+01  1.9330E+00
Accumulated dose (rem)  8.7299E+00  9.0066E+01  1.2404E+01

CR Air Intake Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.4537E-01  1.6264E+01  1.3708E+00
Accumulated dose (rem)  2.4719E+01  2.1359E+02  3.3904E+01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1058E-02  3.2742E+00  1.5678E-01
Accumulated dose (rem)  8.6139E-01  4.5332E+01  2.8046E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.2581E+05	2.1049E+00	1.4913E+25	5.1972E+21
Kr-85m	7.9223E+03	9.6267E-07	6.8204E+18	9.9414E+21
Kr-87	1.1166E-04	3.9422E-15	2.7288E+10	3.7891E+21
Kr-88	2.9601E+02	2.3607E-08	1.6155E+17	1.5769E+22
Rb-86	1.5426E+02	1.8958E-06	1.3275E+19	1.4458E+18
Sr-89	6.5260E+03	2.2463E-04	1.5200E+21	5.5086E+19
Sr-90	9.2561E+02	6.7857E-03	4.5405E+22	7.6842E+18
Sr-91	2.5176E+02	6.9450E-08	4.5960E+17	2.9113E+19
Sr-92	4.1960E-02	3.3383E-12	2.1852E+13	1.6744E+19
Y-90	3.7332E+02	6.8617E-07	4.5913E+18	1.2782E+18
Y-91	1.0417E+02	4.2476E-06	2.8110E+19	8.0045E+17
Y-92	2.2090E+00	2.2957E-10	1.5027E+15	3.6371E+18
Y-93	3.8294E+00	1.1478E-09	7.4325E+15	3.7088E+17
Zr-95	1.1143E+02	5.1869E-06	3.2880E+19	9.3725E+17
Zr-97	1.5783E+01	8.2562E-09	5.1258E+16	5.1854E+17
Nb-95	1.1456E+02	2.9298E-06	1.8572E+19	9.5143E+17
Mo-99	9.5249E+02	1.9860E-06	1.2080E+19	1.0878E+19
Tc-99m	9.7468E+02	1.8536E-07	1.1276E+18	1.0067E+19
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.2901E-01	7.8698E-11	4.5136E+14	2.2627E+18
Ru-106	5.8148E+02	1.7381E-04	9.8744E+20	4.8380E+18
Rh-105	4.0295E+02	4.7739E-07	2.7380E+18	5.8617E+18
Sb-127	1.2815E+03	4.7985E-06	2.2754E+19	1.3325E+19
Sb-129	2.4625E+00	4.3791E-10	2.0443E+15	1.2796E+19
Te-127	1.4561E+03	5.5172E-07	2.6162E+18	1.3754E+19
Te-127m	2.4616E+02	2.6097E-05	1.2375E+20	2.0419E+18
Te-129	6.6995E+02	3.1990E-08	1.4934E+17	1.6729E+19
Te-129m	7.7075E+02	2.5585E-05	1.1944E+20	6.5457E+18
Te-131m	8.0379E+02	1.0080E-06	4.6338E+18	1.3900E+19
Te-132	1.5523E+04	5.1131E-05	2.3327E+20	1.6839E+20
I-131	9.7953E+04	7.9010E-04	3.6321E+21	8.8551E+20
I-132	1.8528E+04	1.7950E-06	8.1892E+18	5.0167E+20
I-133	4.8059E+04	4.2424E-05	1.9209E+20	1.1586E+21
I-135	1.4482E+03	4.1239E-07	1.8396E+18	6.2427E+20
Xe-133	7.3498E+07	3.9266E-01	1.7779E+24	5.2792E+23
Xe-135	1.2058E+06	4.7216E-04	2.1063E+21	7.3879E+22
Cs-134	2.0497E+04	1.5842E-02	7.1196E+22	1.8342E+20
Cs-136	4.5153E+03	6.1608E-05	2.7280E+20	4.3190E+19
Cs-137	1.3036E+04	1.4987E-01	6.5880E+23	1.1653E+20
Ba-139	4.0379E-07	2.4686E-17	1.0695E+08	1.5178E+19
Ba-140	1.0652E+04	1.4550E-04	6.2586E+20	9.4519E+19
La-140	6.2416E+03	1.1229E-05	4.8304E+19	2.2553E+19
La-141	2.3624E-02	4.1772E-12	1.7841E+13	2.5161E+17
La-142	4.5843E-08	3.2024E-18	1.3581E+07	1.4435E+17
Ce-141	2.6956E+02	9.4604E-06	4.0406E+19	2.2952E+18
Ce-143	9.5643E+01	1.4402E-07	6.0652E+17	1.5399E+18
Ce-144	2.3234E+02	7.2844E-05	3.0464E+20	1.9344E+18
Pr-143	1.0716E+02	1.5913E-06	6.7016E+18	8.6803E+17
Nd-147	3.9501E+01	4.8828E-07	2.0003E+18	3.5432E+17
Np-239	1.8527E+03	7.9861E-06	2.0123E+19	2.2377E+19
Pu-238	1.3004E+00	7.5958E-05	1.9220E+20	1.0793E+16
Pu-239	7.7419E-02	1.2455E-03	3.1384E+21	6.4076E+14
Pu-240	7.7639E-02	3.4072E-04	8.5494E+20	6.4448E+14
Pu-241	4.6268E+01	4.4915E-04	1.1223E+21	3.8414E+17
Am-241	3.3158E-02	9.6610E-06	2.4141E+19	2.7318E+14
Cm-242	6.3838E+00	1.9261E-06	4.7932E+18	5.3267E+16
Cm-244	8.2723E-01	1.0225E-05	2.5236E+19	6.8677E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6693E+25	0.0000E+00
Elemental I (atoms)	4.1391E+20	5.5506E+22
Organic I (atoms)	7.1832E+20	0.0000E+00
Aerosols (kg)	1.7610E-01	5.0845E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         3.9442E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.1481E-05
Total I (Ci)                                   1.6599E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7399E+22
Elemental I (atoms)	0.0000E+00	2.5663E+18
Organic I (atoms)	0.0000E+00	3.4689E+18
Aerosols (kg)	0.0000E+00	1.3317E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0631E+27
Elemental I (atoms)	0.0000E+00	3.4433E+22
Organic I (atoms)	0.0000E+00	5.2945E+22
Aerosols (kg)	0.0000E+00	1.5622E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0516E+27
Elemental I (atoms)	0.0000E+00	3.4014E+22
Organic I (atoms)	0.0000E+00	5.2256E+22
Aerosols (kg)	0.0000E+00	1.5519E+01

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	1.0325E-02	3.2471E-10	3.3715E+15	3.8203E+08
Co-60	1.2429E-02	1.0995E-08	1.1036E+17	4.5986E+08
Kr-85	1.4438E+04	3.6801E-02	2.6073E+23	5.3422E+14
Kr-85m	2.6166E+04	3.1795E-06	2.2526E+19	9.6812E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6027E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	4.0874E-01	5.0234E-09	3.5177E+16	1.5124E+10
Sr-89	1.4633E+01	5.0367E-07	3.4080E+18	5.4141E+11
Sr-90	2.0362E+00	1.4927E-05	9.9884E+19	7.5340E+10
Sr-91	8.8538E+00	2.4424E-09	1.6163E+16	3.2759E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	2.7266E-01	5.0116E-10	3.3534E+15	1.0089E+10
Y-91	2.0976E-01	8.5535E-09	5.6605E+16	7.7613E+09
Y-92	2.2027E+00	2.2891E-10	1.4984E+15	8.1499E+10
Y-93	1.1278E-01	3.3805E-11	2.1890E+14	4.1730E+09

Zr-95	2.4884E-01	1.1583E-08	7.3426E+16	9.2070E+09
Zr-97	1.5453E-01	8.0837E-11	5.0187E+14	5.7178E+09
Nb-95	2.5220E-01	6.4496E-09	4.0885E+16	9.3314E+09
Mo-99	3.0042E+00	6.2637E-09	3.8102E+16	1.1115E+11
Tc-99m	2.8346E+00	5.3908E-10	3.2792E+15	1.0488E+11
Ru-103	2.8968E+00	8.9756E-08	5.2478E+17	1.0718E+11
Ru-105	6.3912E-01	9.5078E-11	5.4531E+14	2.3647E+10
Ru-106	1.2824E+00	3.8332E-07	2.1777E+18	4.7450E+10
Rh-105	1.6686E+00	1.9769E-09	1.1338E+16	6.1740E+10
Sb-127	3.6397E+00	1.3629E-08	6.4627E+16	1.3467E+11
Sb-129	3.5940E+00	6.3911E-10	2.9836E+15	1.3298E+11
Te-127	3.7884E+00	1.4355E-09	6.8068E+15	1.4017E+11
Te-127m	5.4105E-01	5.7360E-08	2.7199E+17	2.0019E+10
Te-129	5.0155E+00	2.3949E-10	1.1180E+15	1.8557E+11
Te-129m	1.7407E+00	5.7781E-08	2.6974E+17	6.4405E+10
Te-131m	3.9928E+00	5.0073E-09	2.3019E+16	1.4773E+11
Te-132	4.6229E+01	1.5227E-07	6.9471E+17	1.7105E+12
I-131	7.5574E+02	6.0959E-06	2.8023E+19	2.7962E+13
I-132	2.7800E+02	2.6932E-08	1.2287E+17	1.0286E+13
I-133	9.6559E+02	8.5238E-07	3.8595E+18	3.5727E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3598E+02	1.2414E-07	5.5379E+17	1.6131E+13
Xe-133	1.4808E+06	7.9109E-03	3.5820E+22	5.4789E+16
Xe-135	2.1446E+05	8.3978E-05	3.7461E+20	7.9349E+15
Cs-134	5.1516E+01	3.9817E-05	1.7894E+20	1.9061E+12
Cs-136	1.2244E+01	1.6706E-07	7.3976E+17	4.5304E+11
Cs-137	3.2724E+01	3.7621E-04	1.6537E+21	1.2108E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	2.5286E+01	3.4540E-07	1.4857E+18	9.3559E+11
La-140	4.8929E+00	8.8030E-09	3.7866E+16	1.8104E+11
La-141	6.9173E-02	1.2231E-11	5.2241E+13	2.5594E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	6.1047E-01	2.1425E-08	9.1506E+16	2.2587E+10
Ce-143	4.3982E-01	6.6229E-10	2.7891E+15	1.6273E+10
Ce-144	5.1280E-01	1.6078E-07	6.7238E+17	1.8973E+10
Pr-143	2.2917E-01	3.4033E-09	1.4332E+16	8.4794E+09
Nd-147	9.4933E-02	1.1735E-09	4.8074E+15	3.5125E+09
Np-239	6.2181E+00	2.6803E-08	6.7537E+16	2.3007E+11
Pu-238	2.8601E-03	1.6706E-07	4.2272E+17	1.0582E+08
Pu-239	1.6972E-04	2.7305E-06	6.8802E+18	6.2796E+06
Pu-240	1.7078E-04	7.4946E-07	1.8806E+18	6.3188E+06
Pu-241	1.0179E-01	9.8816E-07	2.4692E+18	3.7663E+09
Am-241	7.2316E-05	2.1070E-08	5.2650E+16	2.6757E+06
Cm-242	1.4126E-02	4.2620E-09	1.0606E+16	5.2265E+08
Cm-244	1.8199E-03	2.2495E-08	5.5519E+16	6.7336E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.9697E+23	1.7186E+18
Elemental I (atoms)	9.1164E+18	5.2757E+13
Organic I (atoms)	1.4950E+19	8.6516E+13
Aerosols (kg)	4.3955E-04	2.5437E-09
Dose Effective (Ci) I-131 (Thyroid)		9.3079E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.0612E+03
Total I (Ci)		2.4968E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2179E+23
Elemental I (atoms)	4.6549E+17	4.1887E+18
Organic I (atoms)	0.0000E+00	6.1788E+18
Aerosols (kg)	2.2258E-03	3.0871E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2167E+23
Elemental I (atoms)	9.2055E+17	3.4444E+18
Organic I (atoms)	0.0000E+00	6.1653E+18
Aerosols (kg)	4.7250E-04	1.1650E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.3679E+22
Elemental I (atoms)	4.2870E+17	1.5227E+18
Organic I (atoms)	0.0000E+00	2.6868E+18
Aerosols (kg)	1.1649E-04	1.4353E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1987E+20
Elemental I (atoms)	4.9217E+15	1.5136E+14
Organic I (atoms)	6.2589E+15	7.1306E+13
Aerosols (kg)	2.7797E-07	1.3872E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6373E+19
Elemental I (atoms)	0.0000E+00	1.2758E+15
Organic I (atoms)	0.0000E+00	1.4021E+15
Aerosols (kg)	0.0000E+00	8.1732E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.4518E+20	0.0000E+00
Elemental I (atoms)	1.4134E+15	0.0000E+00
Organic I (atoms)	1.4566E+15	0.0000E+00
Aerosols (kg)	9.5459E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.1430E-01	1.8250E+01	1.4486E+00
Accumulated dose (rem)	9.4442E+00	1.0832E+02	1.3853E+01

CR Air Intake Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.0655E-01	1.2942E+01	1.0273E+00
Accumulated dose (rem)	2.5225E+01	2.2653E+02	3.4932E+01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9442E-02	2.4363E+00	1.1739E-01
Accumulated dose (rem)	8.8083E-01	4.7769E+01	2.9220E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.2239E+05	2.0961E+00	1.4851E+25	7.8315E+21
Kr-85m	1.9251E+02	2.3393E-08	1.6574E+17	9.9480E+21
Kr-87	2.3168E-10	8.1791E-21	5.6616E+04	3.7891E+21
Kr-88	8.4268E-01	6.7204E-11	4.5990E+14	1.5769E+22
Rb-86	1.4804E+02	1.8194E-06	1.2740E+19	1.9289E+18
Sr-89	6.4115E+03	2.2069E-04	1.4933E+21	7.5763E+19
Sr-90	9.2187E+02	6.7582E-03	4.5221E+22	1.0637E+19
Sr-91	4.3527E+01	1.2007E-08	7.9462E+16	2.9492E+19
Sr-92	9.0191E-05	7.1754E-15	4.6969E+10	1.6744E+19
Y-90	4.9889E+02	9.1696E-07	6.1357E+18	2.6652E+18
Y-91	1.0312E+02	4.2047E-06	2.7826E+19	1.1320E+18
Y-92	2.1073E-02	2.1900E-12	1.4336E+13	3.6386E+18
Y-93	7.3466E-01	2.2020E-10	1.4259E+15	3.7687E+17
Zr-95	1.0979E+02	5.1106E-06	3.2396E+19	1.2908E+18
Zr-97	5.8745E+00	3.0729E-09	1.9078E+16	5.5059E+17
Nb-95	1.1401E+02	2.9157E-06	1.8483E+19	1.3166E+18
Mo-99	7.3734E+02	1.5374E-06	9.3517E+18	1.3564E+19
Tc-99m	7.5583E+02	1.4374E-07	8.7438E+17	1.2680E+19
Ru-103	1.2574E+03	3.8960E-05	2.2779E+20	1.4961E+19
Ru-105	1.2432E-02	1.8494E-12	1.0607E+13	2.2631E+18
Ru-106	5.7808E+02	1.7279E-04	9.8167E+20	6.6913E+18
Rh-105	2.5077E+02	2.9710E-07	1.7040E+18	6.8874E+18
Sb-127	1.0661E+03	3.9920E-06	1.8929E+19	1.7067E+19
Sb-129	5.2151E-02	9.2740E-12	4.3294E+13	1.2798E+19
Te-127	1.2571E+03	4.7633E-07	2.2587E+18	1.7939E+19
Te-127m	2.4496E+02	2.5970E-05	1.2315E+20	2.8269E+18
Te-129	6.5035E+02	3.1054E-08	1.4497E+17	1.8316E+19
Te-129m	7.5202E+02	2.4963E-05	1.1654E+20	8.9794E+18
Te-131m	4.5982E+02	5.7664E-07	2.6509E+18	1.5869E+19
Te-132	1.2498E+04	4.1169E-05	1.8782E+20	2.1301E+20
I-131	8.9544E+04	7.2228E-04	3.3203E+21	1.1850E+21
I-132	1.4918E+04	1.4453E-06	6.5936E+18	5.4785E+20
I-133	2.1513E+04	1.8991E-05	8.5989E+19	1.2642E+21
I-135	1.1644E+02	3.3157E-08	1.4791E+17	6.2596E+20
Xe-133	6.4147E+07	3.4270E-01	1.5517E+24	7.4757E+23
Xe-135	1.9291E+05	7.5540E-05	3.3697E+20	7.5645E+22
Cs-134	2.0397E+04	1.5765E-02	7.0848E+22	2.4878E+20
Cs-136	4.2656E+03	5.8200E-05	2.5771E+20	5.7220E+19
Cs-137	1.2984E+04	1.4927E-01	6.5614E+23	1.5812E+20
Ba-140	1.0048E+04	1.3724E-04	5.9036E+20	1.2759E+20
La-140	7.6309E+03	1.3729E-05	5.9055E+19	4.4660E+19
La-141	3.4140E-04	6.0368E-14	2.5783E+11	2.5162E+17
Ce-141	2.6282E+02	9.2240E-06	3.9396E+19	3.1460E+18
Ce-143	5.7543E+01	8.6651E-08	3.6491E+17	1.7796E+18
Ce-144	2.3085E+02	7.2378E-05	3.0269E+20	2.6746E+18
Pr-143	1.0514E+02	1.5613E-06	6.5752E+18	1.2076E+18
Nd-147	3.6937E+01	4.5658E-07	1.8705E+18	4.7644E+17
Np-239	1.3748E+03	5.9262E-06	1.4932E+19	2.7497E+19
Pu-238	1.2953E+00	7.5663E-05	1.9145E+20	1.4942E+16
Pu-239	7.7237E-02	1.2426E-03	3.1311E+21	8.8795E+14
Pu-240	7.7330E-02	3.3937E-04	8.5155E+20	8.9216E+14
Pu-241	4.6078E+01	4.4731E-04	1.1177E+21	5.3173E+17
Am-241	3.3229E-02	9.6815E-06	2.4192E+19	3.7928E+14
Cm-242	6.3314E+00	1.9103E-06	4.7538E+18	7.3589E+16
Cm-244	8.2385E-01	1.0183E-05	2.5133E+19	9.5066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6403E+25	0.0000E+00	
Elemental I (atoms)	3.6845E+20	5.5506E+22	
Organic I (atoms)	6.3941E+20	0.0000E+00	
Aerosols (kg)	1.7529E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4652E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5628E-05
Total I (Ci)			1.2609E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9224E+22
Elemental I (atoms)	0.0000E+00	3.0820E+18
Organic I (atoms)	0.0000E+00	4.3638E+18
Aerosols (kg)	0.0000E+00	1.5634E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5899E+27
Elemental I (atoms)	0.0000E+00	4.6881E+22
Organic I (atoms)	0.0000E+00	7.4548E+22
Aerosols (kg)	0.0000E+00	2.1215E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5785E+27
Elemental I (atoms)	0.0000E+00	4.6463E+22
Organic I (atoms)	0.0000E+00	7.3860E+22
Aerosols (kg)	0.0000E+00	2.1112E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	1.9904E+04	5.0733E-02	3.5944E+23	7.3646E+14
Kr-85m	2.6178E+04	3.1810E-06	2.2537E+19	9.6860E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	4.7845E-01	5.8802E-09	4.1176E+16	1.7703E+10
Sr-89	1.7618E+01	6.0641E-07	4.1033E+18	6.5185E+11
Sr-90	2.4626E+00	1.8053E-05	1.2080E+20	9.1117E+10
Sr-91	8.9066E+00	2.4570E-09	1.6260E+16	3.2955E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	4.7650E-01	8.7582E-10	5.8603E+15	1.7631E+10
Y-91	2.5764E-01	1.0506E-08	6.9523E+16	9.5326E+09
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1362E-01	3.4055E-11	2.2052E+14	4.2039E+09
Zr-95	2.9988E-01	1.3959E-08	8.8488E+16	1.1096E+10
Zr-97	1.5907E-01	8.3209E-11	5.1659E+14	5.8855E+09
Nb-95	3.0496E-01	7.7987E-09	4.9437E+16	1.1283E+10
Mo-99	3.3900E+00	7.0683E-09	4.2996E+16	1.2543E+11

Tc-99m	3.2299E+00	6.1426E-10	3.7366E+15	1.1951E+11
Ru-103	3.4833E+00	1.0793E-07	6.3103E+17	1.2888E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	1.5500E+00	4.6331E-07	2.6322E+18	5.7352E+10
Rh-105	1.8153E+00	2.1507E-09	1.2335E+16	6.7167E+10
Sb-127	4.1779E+00	1.5645E-08	7.4184E+16	1.5458E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	4.4117E+00	1.6717E-09	7.9268E+15	1.6323E+11
Te-127m	6.5441E-01	6.9378E-08	3.2898E+17	2.4213E+10
Te-129	5.3197E+00	2.5401E-10	1.1858E+15	1.9683E+11
Te-129m	2.0920E+00	6.9442E-08	3.2418E+17	7.7403E+10
Te-131m	4.2738E+00	5.3597E-09	2.4639E+16	1.5813E+11
Te-132	5.2643E+01	1.7340E-07	7.9109E+17	1.9478E+12
I-131	9.3452E+02	7.5380E-06	3.4652E+19	3.4577E+13
I-132	3.0102E+02	2.9163E-08	1.3305E+17	1.1138E+13
I-133	1.0277E+03	9.0721E-07	4.1078E+18	3.8025E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3693E+02	1.2442E-07	5.5501E+17	1.6167E+13
Xe-133	1.9353E+06	1.0339E-02	4.6814E+22	7.1605E+16
Xe-135	2.1798E+05	8.5359E-05	3.8077E+20	8.0654E+15
Cs-134	6.0955E+01	4.7112E-05	2.1173E+20	2.2553E+12
Cs-136	1.4268E+01	1.9468E-07	8.6204E+17	5.2792E+11
Cs-137	3.8730E+01	4.4526E-04	1.9572E+21	1.4330E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	3.0057E+01	4.1057E-07	1.7661E+18	1.1121E+12
La-140	8.1402E+00	1.4645E-08	6.2996E+16	3.0119E+11
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	7.3328E-01	2.5735E-08	1.0992E+17	2.7131E+10
Ce-143	4.7407E-01	7.1387E-10	3.0063E+15	1.7541E+10
Ce-144	6.1969E-01	1.9429E-07	8.1254E+17	2.2929E+10
Pr-143	2.7823E-01	4.1317E-09	1.7400E+16	1.0294E+10
Nd-147	1.1255E-01	1.3912E-09	5.6993E+15	4.1642E+09
Np-239	6.9531E+00	2.9971E-08	7.5519E+16	2.5726E+11
Pu-238	3.4591E-03	2.0206E-07	5.1127E+17	1.2799E+08
Pu-239	2.0542E-04	3.3048E-06	8.3273E+18	7.6004E+06
Pu-240	2.0655E-04	9.0643E-07	2.2744E+18	7.6422E+06
Pu-241	1.2311E-01	1.1951E-06	2.9862E+18	4.5549E+09
Am-241	8.7640E-05	2.5535E-08	6.3807E+16	3.2427E+06
Cm-242	1.7060E-02	5.1474E-09	1.2809E+16	6.3122E+08
Cm-244	2.2010E-03	2.7205E-08	6.7144E+16	8.1435E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.0667E+23	1.5690E+18
Elemental I (atoms)	1.0356E+19	3.9953E+13
Organic I (atoms)	1.9427E+19	7.4950E+13
Aerosols (kg)	5.2066E-04	2.0087E-09

Dose Effective (Ci) I-131 (Thyroid)	1.1201E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.2575E+03
Total I (Ci)	2.7617E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6574E+23
Elemental I (atoms)	7.9303E+17	4.8997E+18
Organic I (atoms)	0.0000E+00	7.9809E+18
Aerosols (kg)	2.6356E-03	3.6554E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  1.6562E+23
Elemental I (atoms)    1.4010E+18  3.7985E+18
Organic I (atoms)      0.0000E+00  7.9670E+18
Aerosols (kg)          5.5952E-04  1.3796E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5546E+22
Elemental I (atoms)    6.7368E+17  1.7033E+18
Organic I (atoms)      0.0000E+00  3.5829E+18
Aerosols (kg)          1.3933E-04  1.7168E-05

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4747E+20
Elemental I (atoms)    5.2318E+15  1.5450E+14
Organic I (atoms)      7.3791E+15  8.2621E+13
Aerosols (kg)          2.9816E-07  1.4076E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2430E+19
Elemental I (atoms)    0.0000E+00  1.3445E+15
Organic I (atoms)      0.0000E+00  1.6504E+15
Aerosols (kg)          0.0000E+00  8.6208E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    1.7884E+20  0.0000E+00
Elemental I (atoms)    1.4861E+15  0.0000E+00
Organic I (atoms)      1.7162E+15  0.0000E+00
Aerosols (kg)          1.0014E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.9229E-01  1.4908E+01  1.2221E+00
Accumulated dose (rem)  1.0036E+01  1.2322E+02  1.5075E+01

CR Air Intake Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2003E-01  1.0572E+01  8.6669E-01
Accumulated dose (rem)  2.5645E+01  2.3710E+02  3.5798E+01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6138E-02  1.9903E+00  1.0015E-01
Accumulated dose (rem)  8.9697E-01  4.9759E+01  3.0222E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.5046E+00  1.4166E-07  1.4709E+18  6.8096E+16
Co-60                  5.5986E+00  4.9528E-06  4.9711E+19  8.2848E+16
Kr-85                  8.1897E+05  2.0874E+00  1.4789E+25  1.0455E+22
Kr-85m                 4.6781E+00  5.6846E-10  4.0274E+15  9.9482E+21
Kr-88                  2.3989E-03  1.9131E-13  1.3092E+12  1.5769E+22
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Rb-86	1.4208E+02	1.7461E-06	1.2227E+19	2.3925E+18
Sr-89	6.2989E+03	2.1681E-04	1.4671E+21	9.6077E+19
Sr-90	9.1815E+02	6.7309E-03	4.5039E+22	1.3578E+19
Sr-91	7.5254E+00	2.0760E-09	1.3738E+16	2.9557E+19
Sr-92	1.9386E-07	1.5423E-17	1.0096E+08	1.6744E+19
Y-90	5.9447E+02	1.0927E-06	7.3112E+18	4.4037E+18
Y-91	1.0160E+02	4.1428E-06	2.7416E+19	1.4592E+18
Y-92	1.9329E-04	2.0088E-14	1.3149E+11	3.6387E+18
Y-93	1.4094E-01	4.2244E-11	2.7355E+14	3.7802E+17
Zr-95	1.0818E+02	5.0354E-06	3.1920E+19	1.6392E+18
Zr-97	2.1865E+00	1.1437E-09	7.1008E+15	5.6251E+17
Nb-95	1.1345E+02	2.9012E-06	1.8391E+19	1.6800E+18
Mo-99	5.7078E+02	1.1901E-06	7.2393E+18	1.5644E+19
Tc-99m	5.8518E+02	1.1129E-07	6.7697E+17	1.4705E+19
Ru-103	1.2305E+03	3.8126E-05	2.2291E+20	1.8937E+19
Ru-105	2.9216E-04	4.3463E-14	2.4928E+11	2.2631E+18
Ru-106	5.7470E+02	1.7178E-04	9.7593E+20	8.5337E+18
Rh-105	1.5604E+02	1.8487E-07	1.0603E+18	7.5257E+18
Sb-127	8.8688E+02	3.3210E-06	1.5748E+19	2.0179E+19
Sb-129	1.1044E-03	1.9640E-13	9.1687E+11	1.2798E+19
Te-127	1.0872E+03	4.1195E-07	1.9534E+18	2.1554E+19
Te-127m	2.4355E+02	2.5820E-05	1.2244E+20	3.6076E+18
Te-129	6.3447E+02	3.0296E-08	1.4143E+17	1.9863E+19
Te-129m	7.3373E+02	2.4356E-05	1.1370E+20	1.1354E+19
Te-131m	2.6305E+02	3.2988E-07	1.5165E+18	1.6995E+19
Te-132	1.0063E+04	3.3147E-05	1.5123E+20	2.4892E+20
I-131	8.1844E+04	6.6017E-04	3.0348E+21	1.4587E+21
I-132	1.2012E+04	1.1637E-06	5.3089E+18	5.8503E+20
I-133	9.6300E+03	8.5010E-06	3.8492E+19	1.3114E+21
I-135	9.3624E+00	2.6659E-09	1.1892E+16	6.2610E+20
Xe-133	5.5985E+07	2.9909E-01	1.3543E+24	9.3928E+23
Xe-135	3.0841E+04	1.2077E-05	5.3873E+19	7.5928E+22
Cs-134	2.0297E+04	1.5687E-02	7.0502E+22	3.1382E+20
Cs-136	4.0296E+03	5.4981E-05	2.4346E+20	7.0475E+19
Cs-137	1.2931E+04	1.4866E-01	6.5349E+23	1.9954E+20
Ba-140	9.4777E+03	1.2946E-04	5.5688E+20	1.5879E+20
La-140	8.3469E+03	1.5017E-05	6.4596E+19	7.0070E+19
La-141	4.9338E-06	8.7242E-16	3.7261E+09	2.5162E+17
Ce-141	2.5625E+02	8.9934E-06	3.8411E+19	3.9756E+18
Ce-143	3.4621E+01	5.2133E-08	2.1955E+17	1.9239E+18
Ce-144	2.2937E+02	7.1915E-05	3.0075E+20	3.4102E+18
Pr-143	1.0174E+02	1.5109E-06	6.3629E+18	1.5383E+18
Nd-147	3.4539E+01	4.2695E-07	1.7491E+18	5.9064E+17
Np-239	1.0202E+03	4.3977E-06	1.1081E+19	3.1297E+19
Pu-238	1.2903E+00	7.5368E-05	1.9071E+20	1.9075E+16
Pu-239	7.7024E-02	1.2392E-03	3.1224E+21	1.1345E+15
Pu-240	7.7023E-02	3.3802E-04	8.4817E+20	1.1389E+15
Pu-241	4.5889E+01	4.4547E-04	1.1131E+21	6.7872E+17
Am-241	3.3298E-02	9.7017E-06	2.4243E+19	4.8559E+14
Cm-242	6.2794E+00	1.8947E-06	4.7148E+18	9.3744E+16
Cm-244	8.2049E-01	1.0142E-05	2.5031E+19	1.2135E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6144E+25	0.0000E+00	
Elemental I (atoms)	3.3234E+20	5.5506E+22	
Organic I (atoms)	5.7675E+20	0.0000E+00	
Aerosols (kg)	1.7450E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.1047E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1542E-05
Total I (Ci)			1.0349E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23

Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1069E+23
Elemental I (atoms)	0.0000E+00	3.5443E+18
Organic I (atoms)	0.0000E+00	5.1661E+18
Aerosols (kg)	0.0000E+00	1.7940E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1080E+27
Elemental I (atoms)	0.0000E+00	5.8040E+22
Organic I (atoms)	0.0000E+00	9.3912E+22
Aerosols (kg)	0.0000E+00	2.6782E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0966E+27
Elemental I (atoms)	0.0000E+00	5.7622E+22
Organic I (atoms)	0.0000E+00	9.3227E+22
Aerosols (kg)	0.0000E+00	2.6680E+01

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	1.4540E-02	4.5728E-10	4.7479E+15	5.3800E+08
Co-60	1.7619E-02	1.5587E-08	1.5645E+17	6.5191E+08
Kr-85	2.5348E+04	6.4608E-02	4.5774E+23	9.3787E+14
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	5.4534E-01	6.7022E-09	4.6932E+16	2.0178E+10
Sr-89	2.0550E+01	7.0734E-07	4.7862E+18	7.6035E+11
Sr-90	2.8872E+00	2.1166E-05	1.4163E+20	1.0683E+11
Sr-91	8.9158E+00	2.4595E-09	1.6276E+16	3.2988E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	7.3076E-01	1.3431E-09	8.9873E+15	2.7038E+10
Y-91	3.0487E-01	1.2432E-08	8.2270E+16	1.1280E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1378E-01	3.4103E-11	2.2083E+14	4.2098E+09
Zr-95	3.5017E-01	1.6300E-08	1.0333E+17	1.2956E+10
Zr-97	1.6076E-01	8.4091E-11	5.2207E+14	5.9479E+09
Nb-95	3.5745E-01	9.1411E-09	5.7946E+16	1.3225E+10
Mo-99	3.6887E+00	7.6910E-09	4.6784E+16	1.3648E+11
Tc-99m	3.5361E+00	6.7249E-10	4.0908E+15	1.3084E+11
Ru-103	4.0572E+00	1.2571E-07	7.3499E+17	1.5012E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	1.8161E+00	5.4282E-07	3.0839E+18	6.7194E+10
Rh-105	1.9066E+00	2.2588E-09	1.2955E+16	7.0543E+10

Sb-127	4.6257E+00	1.7321E-08	8.2134E+16	1.7115E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	4.9500E+00	1.8756E-09	8.8939E+15	1.8315E+11
Te-127m	7.6715E-01	8.1330E-08	3.8565E+17	2.8385E+10
Te-129	5.6160E+00	2.6817E-10	1.2519E+15	2.0779E+11
Te-129m	2.4347E+00	8.0818E-08	3.7728E+17	9.0083E+10
Te-131m	4.4346E+00	5.5612E-09	2.5565E+16	1.6408E+11
Te-132	5.7806E+01	1.9041E-07	8.6868E+17	2.1388E+12
I-131	1.0848E+03	8.7505E-06	4.0226E+19	4.0139E+13
I-132	3.1829E+02	3.0836E-08	1.4068E+17	1.1777E+13
I-133	1.0533E+03	9.2979E-07	4.2100E+18	3.8971E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	2.3320E+06	1.2458E-02	5.6411E+22	8.6284E+16
Xe-135	2.1855E+05	8.5580E-05	3.8176E+20	8.0863E+15
Cs-134	7.0345E+01	5.4370E-05	2.4434E+20	2.6028E+12
Cs-136	1.6180E+01	2.2076E-07	9.7754E+17	5.9865E+11
Cs-137	4.4710E+01	5.1401E-04	2.2595E+21	1.6543E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	3.4556E+01	4.7202E-07	2.0304E+18	1.2786E+12
La-140	1.1855E+01	2.1329E-08	9.1745E+16	4.3864E+11
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	8.5301E-01	2.9937E-08	1.2786E+17	3.1561E+10
Ce-143	4.9467E-01	7.4490E-10	3.1370E+15	1.8303E+10
Ce-144	7.2589E-01	2.2759E-07	9.5178E+17	2.6858E+10
Pr-143	3.2598E-01	4.8408E-09	2.0386E+16	1.2061E+10
Nd-147	1.2901E-01	1.5947E-09	6.5331E+15	4.7734E+09
Np-239	7.4983E+00	3.2322E-08	8.1442E+16	2.7744E+11
Pu-238	4.0558E-03	2.3691E-07	5.9945E+17	1.5007E+08
Pu-239	2.4102E-04	3.8776E-06	9.7705E+18	8.9176E+06
Pu-240	2.4216E-04	1.0627E-06	2.6667E+18	8.9601E+06
Pu-241	1.4433E-01	1.4011E-06	3.5010E+18	5.3402E+09
Am-241	1.0299E-04	3.0009E-08	7.4986E+16	3.8108E+06
Cm-242	1.9970E-02	6.0254E-09	1.4994E+16	7.3889E+08
Cm-244	2.5804E-03	3.1895E-08	7.8720E+16	9.5475E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s	
Noble gases (atoms)	5.1457E+23	1.4889E+18	
Elemental I (atoms)	1.0972E+19	3.1747E+13	
Organic I (atoms)	2.3444E+19	6.7834E+13	
Aerosols (kg)	6.0138E-04	1.7401E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.2748E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.4153E+03
Total I (Ci)			2.9549E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0896E+23
Elemental I (atoms)	1.2820E+18	5.3416E+18
Organic I (atoms)	0.0000E+00	9.5965E+18
Aerosols (kg)	3.0435E-03	4.2211E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0884E+23
Elemental I (atoms)	1.8887E+18	3.9149E+18
Organic I (atoms)	0.0000E+00	9.5821E+18
Aerosols (kg)	6.4615E-04	1.5932E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.7059E+22
Elemental I (atoms)	9.2748E+17	1.7639E+18
Organic I (atoms)	0.0000E+00	4.3865E+18
Aerosols (kg)	1.6197E-04	1.9957E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7462E+20
Elemental I (atoms)	5.3858E+15	1.5605E+14
Organic I (atoms)	8.3834E+15	9.2765E+13
Aerosols (kg)	3.1826E-07	1.4279E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8387E+19
Elemental I (atoms)	0.0000E+00	1.3787E+15
Organic I (atoms)	0.0000E+00	1.8730E+15
Aerosols (kg)	0.0000E+00	9.0662E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.1194E+20	0.0000E+00
Elemental I (atoms)	1.5226E+15	0.0000E+00
Organic I (atoms)	1.9489E+15	0.0000E+00
Aerosols (kg)	1.0480E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2431E+00	6.0942E+01	5.1223E+00
Accumulated dose (rem)	1.2280E+01	1.8417E+02	2.0197E+01

CR Air Intake Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.7223E-01	2.3697E+01	1.9918E+00
Accumulated dose (rem)	2.6517E+01	2.6080E+02	3.7790E+01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3647E-02	4.4673E+00	2.4464E-01
Accumulated dose (rem)	9.3062E-01	5.4226E+01	3.2668E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.9879E+05	2.0360E+00	1.4425E+25	2.5968E+22
Kr-85m	9.6323E-10	1.1705E-19	8.2925E+05	9.9482E+21
Rb-86	1.1101E+02	1.3643E-06	9.5532E+18	4.8073E+18
Sr-89	5.6640E+03	1.9496E-04	1.3192E+21	2.1069E+20
Sr-90	8.9612E+02	6.5694E-03	4.3958E+22	3.0975E+19
Sr-91	2.0099E-04	5.5445E-14	3.6692E+11	2.9571E+19
Y-90	8.3370E+02	1.5324E-06	1.0253E+19	1.8639E+19
Y-91	9.2413E+01	3.7683E-06	2.4937E+19	3.3184E+18

Y-93	7.0266E-06	2.1061E-15	1.3638E+10	3.7829E+17
Zr-95	9.8974E+01	4.6071E-06	2.9205E+19	3.6243E+18
Zr-97	5.8126E-03	3.0406E-12	1.8877E+13	5.6957E+17
Nb-95	1.0970E+02	2.8055E-06	1.7784E+19	3.8200E+18
Mo-99	1.2283E+02	2.5610E-07	1.5578E+18	2.1236E+19
Tc-99m	1.2593E+02	2.3949E-08	1.4568E+17	2.0149E+19
Ru-103	1.0807E+03	3.3486E-05	1.9578E+20	4.1069E+19
Ru-106	5.5483E+02	1.6584E-04	9.4218E+20	1.9364E+19
Rh-105	9.0561E+00	1.0729E-08	6.1536E+16	8.5160E+18
Sb-127	2.9400E+02	1.1009E-06	5.2204E+18	3.0478E+19
Te-127	5.1528E+02	1.9525E-07	9.2584E+17	3.5472E+19
Te-127m	2.3246E+02	2.4644E-05	1.1686E+20	8.1774E+18
Te-129	5.4736E+02	2.6137E-08	1.2201E+17	2.8383E+19
Te-129m	6.3300E+02	2.1012E-05	9.8092E+19	2.4437E+19
Te-131m	9.2196E+00	1.1562E-08	5.3151E+16	1.8447E+19
Te-132	2.7418E+03	9.0312E-06	4.1202E+19	3.5692E+20
I-131	4.7659E+04	3.8443E-04	1.7672E+21	2.6713E+21
I-132	3.2726E+03	3.1705E-07	1.4465E+18	6.9682E+20
I-133	7.7481E+01	6.8397E-08	3.0970E+17	1.3494E+21
I-135	2.5294E-06	7.2025E-16	3.2129E+09	6.2611E+20
Xe-133	2.4737E+07	1.3215E-01	5.9838E+23	1.6730E+24
Xe-135	5.1317E-01	2.0095E-10	8.9641E+14	7.5982E+22
Cs-134	1.9709E+04	1.5233E-02	6.8458E+22	6.9743E+20
Cs-136	2.8643E+03	3.9081E-05	1.7305E+20	1.3595E+20
Cs-137	1.2621E+04	1.4510E-01	6.3782E+23	4.4456E+20
Ba-140	6.6765E+03	9.1199E-05	3.9229E+20	3.1214E+20
La-140	7.5376E+03	1.3561E-05	5.8333E+19	2.2814E+20
Ce-141	2.2015E+02	7.7264E-06	3.2999E+19	8.5354E+18
Ce-143	1.6420E+00	2.4726E-09	1.0413E+16	2.1313E+18
Ce-144	2.2070E+02	6.9197E-05	2.8938E+20	7.7257E+18
Pr-143	7.5726E+01	1.1246E-06	4.7358E+18	3.2401E+18
Nd-147	2.3091E+01	2.8543E-07	1.1693E+18	1.1359E+18
Np-239	1.7036E+02	7.3433E-07	1.8503E+18	4.0404E+19
Pu-238	1.2604E+00	7.3625E-05	1.8629E+20	4.3534E+16
Pu-239	7.5426E-02	1.2135E-03	3.0576E+21	2.5970E+15
Pu-240	7.5206E-02	3.3004E-04	8.2815E+20	2.5986E+15
Pu-241	4.4770E+01	4.3461E-04	1.0860E+21	1.5481E+18
Am-241	3.3691E-02	9.8162E-06	2.4529E+19	1.1280E+15
Cm-242	5.9765E+00	1.8033E-06	4.4874E+18	2.1125E+17
Cm-244	8.0062E-01	9.8961E-06	2.4424E+19	2.7680E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	1.5023E+25	0.0000E+00
Elemental I (atoms)	1.9096E+20	5.5506E+22
Organic I (atoms)	3.3140E+20	0.0000E+00
Aerosols (kg)	1.6994E-01	5.0845E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	1.7729E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	1.7768E-05
Total I (Ci)		5.1009E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19

Aerosols (kg)	0.0000E+00	6.3363E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3360E+23
Elemental I (atoms)	0.0000E+00	5.5598E+18
Organic I (atoms)	0.0000E+00	8.6638E+18
Aerosols (kg)	0.0000E+00	3.1565E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0748E+27
Elemental I (atoms)	0.0000E+00	1.0669E+23
Organic I (atoms)	0.0000E+00	1.7834E+23
Aerosols (kg)	0.0000E+00	5.9670E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0637E+27
Elemental I (atoms)	0.0000E+00	1.0628E+23
Organic I (atoms)	0.0000E+00	1.7766E+23
Aerosols (kg)	0.0000E+00	5.9570E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	5.7539E+04	1.4666E-01	1.0391E+24	2.1289E+15
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	8.9372E-01	1.0984E-08	7.6913E+16	3.3068E+10
Sr-89	3.7093E+01	1.2768E-06	8.6392E+18	1.3724E+12
Sr-90	5.3991E+00	3.9581E-05	2.6484E+20	1.9977E+11
Sr-91	8.9177E+00	2.4601E-09	1.6280E+16	3.2995E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	2.8022E+00	5.1506E-09	3.4464E+16	1.0368E+11
Y-91	5.7325E-01	2.3375E-08	1.5469E+17	2.1210E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1382E-01	3.4115E-11	2.2091E+14	4.2112E+09
Zr-95	6.3673E-01	2.9639E-08	1.8788E+17	2.3559E+10
Zr-97	1.6175E-01	8.4613E-11	5.2531E+14	5.9849E+09
Nb-95	6.6653E-01	1.7045E-08	1.0805E+17	2.4662E+10
Mo-99	4.4919E+00	9.3657E-09	5.6971E+16	1.6620E+11
Tc-99m	4.3596E+00	8.2911E-10	5.0434E+15	1.6131E+11
Ru-103	7.2515E+00	2.2469E-07	1.3137E+18	2.6831E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	3.3798E+00	1.0102E-06	5.7393E+18	1.2505E+11
Rh-105	2.0482E+00	2.4266E-09	1.3917E+16	7.5782E+10
Sb-127	6.1070E+00	2.2868E-08	1.0844E+17	2.2596E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	7.0243E+00	2.6616E-09	1.2621E+16	2.5990E+11
Te-127m	1.4269E+00	1.5128E-07	7.1733E+17	5.2796E+10
Te-129	7.2486E+00	3.4612E-10	1.6158E+15	2.6820E+11
Te-129m	4.3228E+00	1.4349E-07	6.6987E+17	1.5994E+11
Te-131m	4.6419E+00	5.8213E-09	2.6761E+16	1.7175E+11
Te-132	7.3330E+01	2.4154E-07	1.1020E+18	2.7132E+12
I-131	1.7144E+03	1.3828E-05	6.3570E+19	6.3432E+13
I-132	3.6784E+02	3.5636E-08	1.6258E+17	1.3610E+13
I-133	1.0727E+03	9.4694E-07	4.2877E+18	3.9690E+13

I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	3.8504E+06	2.0571E-02	9.3142E+22	1.4247E+17
Xe-135	2.1866E+05	8.5622E-05	3.8195E+20	8.0902E+15
Cs-134	1.2573E+02	9.7177E-05	4.3673E+20	4.6520E+12
Cs-136	2.5623E+01	3.4960E-07	1.5481E+18	9.4805E+11
Cs-137	8.0087E+01	9.2073E-04	4.0473E+21	2.9632E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	5.6672E+01	7.7411E-07	3.3299E+18	2.0969E+12
La-140	3.4863E+01	6.2723E-08	2.6980E+17	1.2899E+12
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	1.5111E+00	5.3032E-08	2.2650E+17	5.5910E+10
Ce-143	5.2432E-01	7.8953E-10	3.3250E+15	1.9400E+10
Ce-144	1.3489E+00	4.2293E-07	1.7687E+18	4.9911E+10
Pr-143	5.7149E-01	8.4868E-09	3.5740E+16	2.1145E+10
Nd-147	2.0764E-01	2.5667E-09	1.0515E+16	7.6827E+09
Np-239	8.8051E+00	3.7955E-08	9.5635E+16	3.2579E+11
Pu-238	7.5873E-03	4.4319E-07	1.1214E+18	2.8073E+08
Pu-239	4.5218E-04	7.2748E-06	1.8330E+19	1.6731E+07
Pu-240	4.5293E-04	1.9877E-06	4.9875E+18	1.6758E+07
Pu-241	2.6985E-01	2.6195E-06	6.5458E+18	9.9843E+09
Am-241	1.9577E-04	5.7039E-08	1.4253E+17	7.2433E+06
Cm-242	3.6934E-02	1.1144E-08	2.7732E+16	1.3666E+09
Cm-244	4.8248E-03	5.9638E-08	1.4719E+17	1.7852E+08

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.1326E+24	1.3109E+18	
Elemental I (atoms)	1.2306E+19	1.4243E+13	
Organic I (atoms)	4.0966E+19	4.7414E+13	
Aerosols (kg)	1.0782E-03	1.2479E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.9078E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0518E+03
Total I (Ci)			3.6534E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5648E+23
Elemental I (atoms)	4.2072E+18	6.4752E+18
Organic I (atoms)	0.0000E+00	1.6640E+19
Aerosols (kg)	5.4531E-03	7.5630E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5636E+23
Elemental I (atoms)	3.6309E+18	4.0498E+18
Organic I (atoms)	0.0000E+00	1.6625E+19
Aerosols (kg)	1.1579E-03	2.8550E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2027E+23
Elemental I (atoms)	1.8443E+18	1.8349E+18
Organic I (atoms)	0.0000E+00	7.8912E+18
Aerosols (kg)	2.9560E-04	3.6423E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0277E+20
Elemental I (atoms)	5.6607E+15	1.5883E+14
Organic I (atoms)	1.1993E+16	1.2923E+14
Aerosols (kg)	4.1611E-07	1.5267E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6509E+19
Elemental I (atoms)	0.0000E+00	1.4396E+15
Organic I (atoms)	0.0000E+00	2.6731E+15
Aerosols (kg)	0.0000E+00	1.1235E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	3.6837E+20	0.0000E+00
Elemental I (atoms)	1.5867E+15	0.0000E+00
Organic I (atoms)	2.7864E+15	0.0000E+00
Aerosols (kg)	1.2750E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6831E+00	6.7230E+01	6.8643E+00
Accumulated dose (rem)	1.3963E+01	2.5140E+02	2.7062E+01

CR Air Intake Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.5445E-01	2.6142E+01	2.6691E+00
Accumulated dose (rem)	2.7172E+01	2.8694E+02	4.0459E+01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5008E-02	4.9200E+00	4.0414E-01
Accumulated dose (rem)	9.5562E-01	5.9146E+01	3.6709E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.3502E+05	1.8735E+00	1.3273E+25	7.4968E+22
Rb-86	4.8765E+01	5.9932E-07	4.1967E+18	9.6447E+18
Sr-89	3.9748E+03	1.3681E-04	9.2575E+20	5.1562E+20
Sr-90	8.2643E+02	6.0586E-03	4.0539E+22	8.6007E+19
Y-90	8.3078E+02	1.5270E-06	1.0217E+19	7.2872E+19
Y-91	6.7335E+01	2.7457E-06	1.8170E+19	8.3826E+18
Zr-95	7.3591E+01	3.4256E-06	2.1715E+19	9.1004E+18
Zr-97	1.5129E-11	7.9141E-21	4.9134E+04	5.6958E+17
Nb-95	9.4624E+01	2.4198E-06	1.5340E+19	1.0364E+19
Mo-99	7.3350E-01	1.5293E-09	9.3030E+15	2.2760E+19
Tc-99m	7.5201E-01	1.4302E-10	8.6996E+14	2.1633E+19
Ru-103	7.0121E+02	2.1727E-05	1.2703E+20	9.7157E+19
Ru-106	4.9342E+02	1.4748E-04	8.3790E+20	5.2834E+19
Rh-105	6.8544E-04	8.1208E-13	4.6576E+12	8.5770E+18
Sb-127	7.4125E+00	2.7757E-08	1.3162E+17	3.5456E+19
Te-127	2.0145E+02	7.6333E-08	3.6196E+17	5.3311E+19
Te-127m	1.9055E+02	2.0201E-05	9.5791E+19	2.1681E+19
Te-129	3.3458E+02	1.5976E-08	7.4582E+16	4.9196E+19
Te-129m	3.8693E+02	1.2844E-05	5.9959E+19	5.6396E+19

Te-131m	1.2991E-04	1.6291E-13	7.4893E+11	1.8500E+19
Te-132	3.5949E+01	1.1841E-07	5.4022E+17	3.9683E+20
I-131	7.8476E+03	6.3300E-05	2.9099E+20	4.0823E+21
I-132	4.2909E+01	4.1570E-09	1.8965E+16	7.3813E+20
I-133	8.0864E-06	7.1384E-15	3.2322E+10	1.3497E+21
Xe-133	1.6251E+06	8.6819E-03	3.9311E+22	2.2157E+24
Cs-134	1.7868E+04	1.3810E-02	6.2063E+22	1.8976E+21
Cs-136	9.1798E+02	1.2525E-05	5.5462E+19	2.4530E+20
Cs-137	1.1640E+04	1.3382E-01	5.8824E+23	1.2196E+21
Ba-140	2.0767E+03	2.8367E-05	1.2202E+20	5.6395E+20
La-140	2.4124E+03	4.3401E-06	1.8669E+19	5.1681E+20
Ce-141	1.3270E+02	4.6573E-06	1.9892E+19	1.9580E+19
Ce-143	6.3410E-05	9.5486E-14	4.0212E+11	2.1417E+18
Ce-144	1.9411E+02	6.0858E-05	2.5451E+20	2.0967E+19
Pr-143	2.5218E+01	3.7450E-07	1.5771E+18	6.1798E+18
Nd-147	6.0328E+00	7.4573E-08	3.0550E+17	1.9484E+18
Np-239	4.3677E-01	1.8827E-09	4.7438E+15	4.2224E+19
Pu-238	1.1657E+00	6.8092E-05	1.7229E+20	1.2105E+17
Pu-239	6.9693E-02	1.1213E-03	2.8252E+21	7.2343E+15
Pu-240	6.9452E-02	3.0479E-04	7.6479E+20	7.2202E+15
Pu-241	4.1233E+01	4.0028E-04	1.0002E+21	4.2956E+18
Am-241	3.4734E-02	1.0120E-05	2.5288E+19	3.3170E+15
Cm-242	5.0684E+00	1.5293E-06	3.8056E+18	5.6351E+17
Cm-244	7.3777E-01	9.1192E-06	2.2507E+19	7.6827E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3312E+25	0.0000E+00	
Elemental I (atoms)	3.1415E+19	5.5506E+22	
Organic I (atoms)	5.4518E+19	0.0000E+00	
Aerosols (kg)	1.5611E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9173E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9178E-06
Total I (Ci)			7.8905E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.0408E+23
Elemental I (atoms)	0.0000E+00	7.8951E+18
Organic I (atoms)	0.0000E+00	1.2717E+19
Aerosols (kg)	0.0000E+00	7.4526E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4018E+28

Elemental I (atoms)	0.0000E+00	1.6306E+23
Organic I (atoms)	0.0000E+00	2.7616E+23
Aerosols (kg)	0.0000E+00	1.6337E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4007E+28
Elemental I (atoms)	0.0000E+00	1.6265E+23
Organic I (atoms)	0.0000E+00	2.7549E+23
Aerosols (kg)	0.0000E+00	1.6328E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.5922E+05	4.0583E-01	2.8752E+24	5.8912E+15
Kr-85m	2.6179E+04	3.1811E-06	2.2537E+19	9.6861E+14
Kr-87	6.0563E+03	2.1381E-07	1.4800E+18	2.2408E+14
Kr-88	3.6028E+04	2.8732E-06	1.9662E+19	1.3330E+15
Rb-86	1.5916E+00	1.9561E-08	1.3697E+17	5.8890E+10
Sr-89	8.1107E+01	2.7918E-06	1.8890E+19	3.0009E+12
Sr-90	1.3345E+01	9.7830E-05	6.5461E+20	4.9375E+11
Sr-91	8.9177E+00	2.4601E-09	1.6280E+16	3.2995E+11
Sr-92	4.1281E+00	3.2842E-10	2.1498E+15	1.5274E+11
Y-90	1.0676E+01	1.9623E-08	1.3130E+17	3.9502E+11
Y-91	1.3042E+00	5.3183E-08	3.5195E+17	4.8257E+10
Y-92	2.2029E+00	2.2893E-10	1.4986E+15	8.1506E+10
Y-93	1.1382E-01	3.4115E-11	2.2091E+14	4.2112E+09
Zr-95	1.4272E+00	6.6434E-08	4.2113E+17	5.2806E+10
Zr-97	1.6176E-01	8.4615E-11	5.2532E+14	5.9850E+09
Nb-95	1.6116E+00	4.1213E-08	2.6125E+17	5.9628E+10
Mo-99	4.7109E+00	9.8222E-09	5.9748E+16	1.7430E+11
Tc-99m	4.5841E+00	8.7179E-10	5.3031E+15	1.6961E+11
Ru-103	1.5347E+01	4.7551E-07	2.7802E+18	5.6783E+11
Ru-105	6.3918E-01	9.5087E-11	5.4536E+14	2.3650E+10
Ru-106	8.2119E+00	2.4546E-06	1.3945E+19	3.0384E+11
Rh-105	2.0569E+00	2.4369E-09	1.3977E+16	7.6105E+10
Sb-127	6.8231E+00	2.5550E-08	1.2115E+17	2.5245E+11
Sb-129	3.5942E+00	6.3916E-10	2.9838E+15	1.3299E+11
Te-127	9.6909E+00	3.6720E-09	1.7412E+16	3.5856E+11
Te-127m	3.3764E+00	3.5795E-07	1.6974E+18	1.2493E+11
Te-129	1.1237E+01	5.3657E-10	2.5049E+15	4.1577E+11
Te-129m	8.9352E+00	2.9660E-07	1.3846E+18	3.3060E+11
Te-131m	4.6494E+00	5.8307E-09	2.6804E+16	1.7203E+11
Te-132	7.9067E+01	2.6044E-07	1.1882E+18	2.9255E+12
I-131	2.4090E+03	1.9431E-05	8.9327E+19	8.9133E+13
I-132	3.8545E+02	3.7342E-08	1.7036E+17	1.4262E+13
I-133	1.0729E+03	9.4707E-07	4.2883E+18	3.9696E+13
I-134	6.1506E+01	2.3056E-09	1.0362E+16	2.2757E+12
I-135	4.3701E+02	1.2444E-07	5.5510E+17	1.6169E+13
Xe-133	4.9734E+06	2.6570E-02	1.2031E+23	1.8402E+17
Xe-135	2.1866E+05	8.5622E-05	3.8195E+20	8.0902E+15
Cs-134	2.9901E+02	2.3111E-04	1.0386E+21	1.1063E+13
Cs-136	4.1394E+01	5.6478E-07	2.5009E+18	1.5316E+12
Cs-137	1.9200E+02	2.2073E-03	9.7027E+21	7.1038E+12
Ba-139	2.7892E+00	1.7052E-10	7.3876E+14	1.0320E+11
Ba-140	9.2988E+01	1.2702E-06	5.4637E+18	3.4406E+12
La-140	7.6810E+01	1.3819E-07	5.9443E+17	2.8420E+12
La-141	6.9175E-02	1.2232E-11	5.2242E+13	2.5595E+09
La-142	2.8071E-02	1.9610E-12	8.3163E+12	1.0386E+09
Ce-141	3.1050E+00	1.0897E-07	4.6542E+17	1.1488E+11
Ce-143	5.2579E-01	7.9176E-10	3.3343E+15	1.9454E+10
Ce-144	3.2607E+00	1.0223E-06	4.2754E+18	1.2064E+11
Pr-143	9.9548E-01	1.4783E-08	6.2256E+16	3.6833E+10

Nd-147	3.2479E-01	4.0148E-09	1.6448E+16	1.2017E+10
Np-239	9.0664E+00	3.9081E-08	9.8473E+16	3.3546E+11
Pu-238	1.8779E-02	1.0969E-06	2.7756E+18	6.9483E+08
Pu-239	1.1217E-03	1.8047E-05	4.5473E+19	4.1504E+07
Pu-240	1.1202E-03	4.9161E-06	1.2335E+19	4.1448E+07
Pu-241	6.6655E-01	6.4705E-06	1.6169E+19	2.4662E+10
Am-241	5.1190E-04	1.4915E-07	3.7269E+17	1.8940E+07
Cm-242	8.7790E-02	2.6488E-08	6.5916E+16	3.2482E+09
Cm-244	1.1921E-02	1.4735E-07	3.6367E+17	4.4107E+08

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.9960E+24	1.1559E+18
Elemental I (atoms)	1.2446E+19	4.8017E+12
Organic I (atoms)	6.1276E+19	2.3640E+13
Aerosols (kg)	2.5817E-03	9.9603E-10
Dose Effective (Ci) I-131 (Thyroid)		2.6026E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		2.7471E+03
Total I (Ci)		4.3658E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2025E+24
Elemental I (atoms)	8.7811E+18	6.6040E+18
Organic I (atoms)	0.0000E+00	2.4801E+19
Aerosols (kg)	1.3051E-02	1.8100E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2024E+24
Elemental I (atoms)	3.9522E+18	4.0569E+18
Organic I (atoms)	0.0000E+00	2.4786E+19
Aerosols (kg)	2.7715E-03	6.8337E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9164E+23
Elemental I (atoms)	2.0350E+18	1.8391E+18
Organic I (atoms)	0.0000E+00	1.1953E+19
Aerosols (kg)	7.1697E-04	8.8342E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8904E+20
Elemental I (atoms)	5.6895E+15	1.5912E+14
Organic I (atoms)	1.6176E+16	1.7148E+14
Aerosols (kg)	7.2464E-07	1.8384E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5127E+20
Elemental I (atoms)	0.0000E+00	1.4460E+15
Organic I (atoms)	0.0000E+00	3.6003E+15
Aerosols (kg)	0.0000E+00	1.8074E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	8.3945E+20	0.0000E+00
Elemental I (atoms)	1.5936E+15	0.0000E+00
Organic I (atoms)	3.7560E+15	0.0000E+00
Aerosols (kg)	1.9901E-07	0.0000E+00

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I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5258E+03	0.0000E+00	0.0000E+00
0.033	2.6557E+05	0.0000E+00	0.0000E+00
0.167	1.2318E+06	3.7127E+01	3.6830E+01
0.500	5.3661E+05	1.0632E+02	1.0244E+02
0.667	8.5233E+05	1.4334E+02	1.3684E+02
1.000	8.9300E+05	2.2276E+02	2.0897E+02
1.160	8.9973E+05	2.5733E+02	2.3927E+02
1.410	9.0759E+05	3.0672E+02	2.8131E+02
1.660	9.1340E+05	3.5087E+02	3.1756E+02
1.910	9.1791E+05	3.9025E+02	3.4876E+02
2.000	9.1931E+05	4.0336E+02	3.5889E+02
2.200	1.1456E+05	3.9422E+02	3.4607E+02
2.300	7.9948E+04	3.8473E+02	3.3494E+02
2.600	1.6514E+05	3.6051E+02	3.0663E+02
2.900	1.6704E+05	3.4050E+02	2.8353E+02
3.200	1.4895E+05	3.2151E+02	2.6229E+02
3.500	1.2863E+05	3.0288E+02	2.4215E+02
3.800	1.1061E+05	2.8461E+02	2.2300E+02
4.000	1.0030E+05	2.7271E+02	2.1083E+02
4.300	1.0993E+05	2.5618E+02	1.9431E+02
4.600	1.1339E+05	2.4143E+02	1.7997E+02
4.900	1.1459E+05	2.2808E+02	1.6733E+02
5.200	1.1494E+05	2.1591E+02	1.5613E+02
5.500	1.1498E+05	2.0478E+02	1.4617E+02
5.800	1.1492E+05	1.9461E+02	1.3730E+02
6.100	1.1481E+05	1.8529E+02	1.2939E+02
6.400	1.1468E+05	1.7676E+02	1.2235E+02
6.700	1.1455E+05	1.6895E+02	1.1608E+02
7.000	1.1442E+05	1.6180E+02	1.1048E+02
7.300	1.1429E+05	1.5524E+02	1.0549E+02
7.600	1.1416E+05	1.4924E+02	1.0104E+02
7.900	1.1402E+05	1.4374E+02	9.7069E+01
8.000	1.1398E+05	1.4201E+02	9.5843E+01
8.300	1.1385E+05	1.3712E+02	9.2432E+01
8.600	1.1372E+05	1.3263E+02	8.9387E+01
8.900	1.1358E+05	1.2852E+02	8.6669E+01
9.200	1.1345E+05	1.2475E+02	8.4240E+01
9.500	1.1332E+05	1.2129E+02	8.2070E+01
9.800	1.1319E+05	1.1812E+02	8.0130E+01
10.100	1.1306E+05	1.1521E+02	7.8395E+01
10.400	1.1293E+05	1.1254E+02	7.6842E+01
24.000	1.0712E+05	8.1067E+01	6.1587E+01
48.000	9.7953E+04	7.3976E+01	5.6478E+01
72.000	8.9544E+04	6.7622E+01	5.1631E+01
96.000	8.1844E+04	6.1807E+01	4.7191E+01
240.000	4.7659E+04	3.5991E+01	2.7480E+01
720.000	7.8476E+03	5.9263E+00	4.5249E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1823E-01	1.8721E+01	4.4273E-02
0.500	3.5420E+00	5.5646E+01	5.7469E-01
0.667	5.5175E+00	7.5944E+01	9.6023E-01
1.000	1.0475E+01	1.2082E+02	2.0347E+00
1.160	1.3072E+01	1.4125E+02	2.6659E+00
1.410	1.7118E+01	1.7155E+02	3.7573E+00
1.660	2.0980E+01	1.9991E+02	4.9386E+00
1.910	2.4556E+01	2.2639E+02	6.1751E+00
2.000	2.5765E+01	2.3548E+02	6.6285E+00
2.200	2.7073E+01	2.3422E+02	7.1946E+00
2.300	2.7490E+01	2.3101E+02	7.4480E+00
2.600	2.7966E+01	2.2304E+02	8.0935E+00
2.900	2.7699E+01	2.1661E+02	8.6033E+00
3.200	2.6997E+01	2.1017E+02	9.0055E+00
3.500	2.6027E+01	2.0343E+02	9.3172E+00
3.800	2.4896E+01	1.9643E+02	9.5513E+00
4.000	2.4089E+01	1.9167E+02	9.6699E+00
4.300	2.2849E+01	1.8486E+02	9.7998E+00
4.600	2.1630E+01	1.7862E+02	9.8829E+00
4.900	2.0469E+01	1.7277E+02	9.9287E+00
5.200	1.9384E+01	1.6726E+02	9.9449E+00
5.500	1.8384E+01	1.6205E+02	9.9375E+00
5.800	1.7468E+01	1.5712E+02	9.9115E+00
6.100	1.6635E+01	1.5244E+02	9.8710E+00
6.400	1.5881E+01	1.4801E+02	9.8193E+00
6.700	1.5201E+01	1.4382E+02	9.7591E+00
7.000	1.4589E+01	1.3984E+02	9.6926E+00
7.300	1.4038E+01	1.3607E+02	9.6217E+00
7.600	1.3545E+01	1.3250E+02	9.5478E+00
7.900	1.3102E+01	1.2911E+02	9.4721E+00
8.000	1.2965E+01	1.2802E+02	9.4467E+00
8.300	1.2572E+01	1.2487E+02	9.3645E+00
8.600	1.2223E+01	1.2188E+02	9.2835E+00
8.900	1.1911E+01	1.1905E+02	9.2040E+00
9.200	1.1633E+01	1.1636E+02	9.1264E+00
9.500	1.1385E+01	1.1381E+02	9.0508E+00
9.800	1.1164E+01	1.1139E+02	8.9774E+00
10.100	1.0965E+01	1.0910E+02	8.9063E+00
10.400	1.0788E+01	1.0693E+02	8.8376E+00
24.000	8.9618E+00	6.9295E+01	7.3911E+00
48.000	8.1384E+00	6.0450E+01	6.5594E+00
72.000	7.2495E+00	5.4951E+01	5.8026E+00
96.000	6.3668E+00	5.0192E+01	5.0560E+00
240.000	3.5382E+00	2.9226E+01	2.7804E+00
720.000	5.2094E-01	4.8123E+00	3.9440E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	1.6810E-01	5.4120E-04	1.2580E+05
0.500	2.7072E+00	5.6645E-03	2.6802E+05
0.667	4.9419E+00	8.7022E-03	3.3556E+05
1.000	1.1969E+01	6.4606E-03	4.5652E+05
1.160	1.6602E+01	6.0152E-03	4.9411E+05
1.410	2.5448E+01	5.8574E-03	5.3527E+05
1.660	3.6186E+01	6.1452E-03	5.6195E+05
1.910	4.8715E+01	6.7091E-03	5.7944E+05
2.000	5.3644E+01	6.9562E-03	5.8417E+05
2.200	6.0293E+01	6.1944E-03	4.5921E+05
2.300	6.3624E+01	5.8982E-03	3.8706E+05
2.600	7.3545E+01	5.2384E-03	2.5369E+05
2.900	8.3338E+01	4.8126E-03	1.8971E+05
3.200	9.2966E+01	4.5243E-03	1.5116E+05
3.500	1.0240E+02	4.3148E-03	1.2404E+05

3.800	1.1160E+02	4.1498E-03	1.0344E+05
4.000	1.1761E+02	4.0544E-03	9.2236E+04
4.300	1.2642E+02	3.9255E-03	8.2382E+04
4.600	1.3501E+02	3.8095E-03	7.8697E+04
4.900	1.4338E+02	3.7039E-03	7.7285E+04
5.200	1.5156E+02	3.6070E-03	7.6708E+04
5.500	1.5955E+02	3.5179E-03	7.6440E+04
5.800	1.6738E+02	3.4359E-03	7.6285E+04
6.100	1.7505E+02	3.3604E-03	7.6172E+04
6.400	1.8258E+02	3.2910E-03	7.6075E+04
6.700	1.8998E+02	3.2273E-03	7.5983E+04
7.000	1.9726E+02	3.1689E-03	7.5894E+04
7.300	2.0444E+02	3.1155E-03	7.5805E+04
7.600	2.1151E+02	3.0666E-03	7.5717E+04
7.900	2.1850E+02	3.0220E-03	7.5629E+04
8.000	2.2081E+02	3.0080E-03	7.5600E+04
8.300	2.2760E+02	2.3147E-03	7.5512E+04
8.600	2.3431E+02	1.8843E-03	7.5424E+04
8.900	2.4096E+02	1.6157E-03	7.5337E+04
9.200	2.4754E+02	1.4467E-03	7.5249E+04
9.500	2.5407E+02	1.3392E-03	7.5162E+04
9.800	2.6055E+02	1.2697E-03	7.5074E+04
10.100	2.6698E+02	1.2239E-03	7.4987E+04
10.400	2.7337E+02	1.1928E-03	7.4900E+04
24.000	5.4373E+02	1.0338E-03	7.1049E+04
48.000	7.5574E+02	3.0020E-04	6.4964E+04
72.000	9.3452E+02	2.5288E-04	5.9387E+04
96.000	1.0848E+03	2.1266E-04	5.4280E+04
240.000	1.7144E+03	9.6573E-05	3.1608E+04
720.000	2.4090E+03	1.5079E-05	5.2046E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		CR Air Intake		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2630E-02	1.1495E-03	1.1721E-01	5.9535E-03	2.1070E-02	8.7356E-04
0.500	3.6335E-01	1.9669E-02	1.8819E+00	1.0187E-01	8.5209E-01	3.5132E-02
0.667	6.6305E-01	3.8308E-02	3.4341E+00	1.9841E-01	1.8490E+00	7.6549E-02
1.000	1.6105E+00	1.1678E-01	8.3411E+00	6.0485E-01	3.9169E+00	1.6543E-01
1.160	2.2356E+00	1.8032E-01	1.1579E+01	9.3394E-01	4.7465E+00	2.0318E-01
1.410	3.4290E+00	3.2027E-01	1.7760E+01	1.6588E+00	5.9762E+00	2.6345E-01
1.660	4.8756E+00	5.1446E-01	2.5252E+01	2.6645E+00	7.2241E+00	3.3088E-01
1.910	6.5604E+00	7.6586E-01	3.3978E+01	3.9666E+00	8.5637E+00	4.0987E-01
2.000	7.2222E+00	8.7063E-01	3.7406E+01	4.5092E+00	9.0776E+00	4.4170E-01
2.200	8.1141E+00	1.0178E+00	4.1172E+01	5.1307E+00	1.0174E+01	5.1125E-01
2.300	8.5600E+00	1.0940E+00	4.3056E+01	5.4525E+00	1.0678E+01	5.4380E-01
2.600	9.8846E+00	1.3304E+00	4.8649E+01	6.4508E+00	1.2065E+01	6.3534E-01
2.900	1.1187E+01	1.5754E+00	5.4149E+01	7.4857E+00	1.3314E+01	7.2074E-01
3.200	1.2462E+01	1.8256E+00	5.9535E+01	8.5421E+00	1.4472E+01	8.0240E-01
3.500	1.3706E+01	2.0779E+00	6.4789E+01	9.6077E+00	1.5566E+01	8.8151E-01
3.800	1.4916E+01	2.3299E+00	6.9898E+01	1.0672E+01	1.6609E+01	9.5858E-01
4.000	1.5703E+01	2.4969E+00	7.3220E+01	1.1377E+01	1.7282E+01	1.0089E+00
4.300	1.6853E+01	2.7445E+00	7.8078E+01	1.2423E+01	1.8260E+01	1.0829E+00
4.600	1.7970E+01	2.9880E+00	8.2793E+01	1.3451E+01	1.9205E+01	1.1549E+00
4.900	1.9054E+01	3.2263E+00	8.7374E+01	1.4458E+01	2.0119E+01	1.2251E+00
5.200	2.0110E+01	3.4591E+00	9.1831E+01	1.5440E+01	2.1005E+01	1.2932E+00
5.500	2.1138E+01	3.6858E+00	9.6172E+01	1.6398E+01	2.1866E+01	1.3594E+00
5.800	2.2140E+01	3.9062E+00	1.0041E+02	1.7329E+01	2.2702E+01	1.4237E+00
6.100	2.3120E+01	4.1201E+00	1.0454E+02	1.8232E+01	2.3517E+01	1.4860E+00
6.400	2.4078E+01	4.3276E+00	1.0859E+02	1.9108E+01	2.4312E+01	1.5465E+00
6.700	2.5017E+01	4.5286E+00	1.1255E+02	1.9957E+01	2.5088E+01	1.6052E+00
7.000	2.5937E+01	4.7232E+00	1.1644E+02	2.0779E+01	2.5848E+01	1.6621E+00

```
   7.300 2.6841E+01 4.9116E+00 1.2026E+02 2.1575E+01 2.6591E+01 1.7173E+00
   7.600 2.7730E+01 5.0939E+00 1.2401E+02 2.2345E+01 2.7320E+01 1.7710E+00
   7.900 2.8604E+01 5.2703E+00 1.2770E+02 2.3090E+01 2.8036E+01 1.8231E+00
   8.000 2.8893E+01 5.3278E+00 1.2892E+02 2.3333E+01 2.8272E+01 1.8401E+00
   8.300 2.9740E+01 5.4963E+00 1.3044E+02 2.3634E+01 2.8889E+01 1.8843E+00
   8.600 3.0575E+01 5.6594E+00 1.3193E+02 2.3926E+01 2.9376E+01 1.9188E+00
   8.900 3.1399E+01 5.8172E+00 1.3341E+02 2.4208E+01 2.9782E+01 1.9472E+00
   9.200 3.2214E+01 5.9701E+00 1.3486E+02 2.4481E+01 3.0136E+01 1.9717E+00
   9.500 3.3019E+01 6.1181E+00 1.3630E+02 2.4746E+01 3.0458E+01 1.9937E+00
   9.800 3.3816E+01 6.2617E+00 1.3773E+02 2.5003E+01 3.0758E+01 2.0141E+00
  10.100 3.4605E+01 6.4008E+00 1.3914E+02 2.5252E+01 3.1045E+01 2.0333E+00
  10.400 3.5387E+01 6.5359E+00 1.4054E+02 2.5493E+01 3.1322E+01 2.0517E+00
  24.000 6.7131E+01 1.0471E+01 1.9733E+02 3.2533E+01 4.2058E+01 2.6478E+00
  48.000 9.0066E+01 1.2404E+01 2.1359E+02 3.3904E+01 4.5332E+01 2.8046E+00
  72.000 1.0832E+02 1.3853E+01 2.2653E+02 3.4932E+01 4.7769E+01 2.9220E+00
  96.000 1.2322E+02 1.5075E+01 2.3710E+02 3.5798E+01 4.9759E+01 3.0222E+00
 240.000 1.8417E+02 2.0197E+01 2.6080E+02 3.7790E+01 5.4226E+01 3.2668E+00
 720.000 2.5140E+02 2.7062E+01 2.8694E+02 4.0459E+01 5.9146E+01 3.6709E+00

#################################################################
                         Worst Two-Hour Doses
#################################################################

Exclusion Area Boundary
   Time   Whole Body    Thyroid        TEDE
   (hr)      (rem)        (rem)         (rem)
    1.6   1.2267E+00   9.5812E+00   1.6941E+00
```

Attachment 12.5b – RADTRAD Output File "DRE3MS395_West_Spray.o0" (Westinghouse Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:10:57
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\DRE3MS395_West_spray.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\Westinghouse\dq39gwd_def.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
 Compartment 4:
```

```
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
Drywell to Intact Control Volume 2
```

```
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
```

```
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
```

```
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
```

```
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
```

```
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
```

```
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
```

```
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3.o0
  1
  1
```

```
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:10:57
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5
```

```
Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:10:57
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        4.433E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.603E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        4.865E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.482E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        1.714E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        3.979E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.508E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        5.379E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        8.763E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   4.609E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   7.427E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.436E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   2.022E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   6.465E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   2.715E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   3.747E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   3.382E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   3.647E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   3.846E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   3.481E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   3.647E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   4.178E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   4.609E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.575E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   4.642E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.106E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.476E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.310E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.077E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   1.890E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   2.901E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.974E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.819E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.957E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   3.979E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   8.687E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.290E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   3.945E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.846E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.702E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.912E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.537E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.101E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.172E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data
```

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
2.0000E+00	1.0900E-05
8.0000E+00	7.0200E-06
2.4000E+01	2.7000E-06
9.6000E+01	6.8600E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr) X/Q (s * m^-3)

```
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-01
      1.0000E+00       1.0000E-02
      2.0000E+00       5.0000E-01
      8.0000E+00       1.0000E+00
      2.4000E+01       2.0000E+00
      9.6000E+01       5.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:10:57
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    9.7077E+22  0.0000E+00
Elemental I (atoms)    6.4079E+20  0.0000E+00
Organic I (atoms)      1.9818E+19  0.0000E+00
Aerosols (kg)          6.5081E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4189E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8107E-04
Total I (Ci)                                   2.3304E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1438E+12
Elemental I (atoms)    0.0000E+00  1.4161E+10
Organic I (atoms)      0.0000E+00  4.3798E+08
Aerosols (kg)          0.0000E+00  1.4372E-11

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.7592E+01
Elemental I (atoms)    0.0000E+00  3.1438E-01
Organic I (atoms)      0.0000E+00  9.7231E-03
Aerosols (kg)          0.0000E+00  3.1906E-22

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.0333	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3249E-04	2.3911E-02	1.2145E-03
Accumulated dose (rem)	2.3249E-04	2.3911E-02	1.2145E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4361E-05	2.5054E-03	1.2726E-04
Accumulated dose (rem)	2.4361E-05	2.5054E-03	1.2726E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.3570E-06	2.2179E-02	9.1954E-04
Accumulated dose (rem)	8.3570E-06	2.2179E-02	9.1954E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.3172E+04	5.9061E-02	4.1844E+23	3.4923E+17
Kr-85m	3.6388E+05	4.4217E-05	3.1327E+20	5.5386E+18
Kr-87	6.5924E+05	2.3274E-05	1.6110E+20	1.0289E+19
Kr-88	9.7602E+05	7.7838E-05	5.3267E+20	1.4941E+19
Rb-86	3.2494E+03	3.9935E-05	2.7964E+20	4.8978E+16
I-131	1.3576E+06	1.0951E-02	5.0342E+22	2.0466E+19
I-132	1.9006E+06	1.8413E-04	8.4005E+20	2.9078E+19
I-133	2.7683E+06	2.4437E-03	1.1065E+22	4.1811E+19
I-134	2.6885E+06	1.0078E-04	4.5292E+20	4.2631E+19
I-135	2.5551E+06	7.2758E-04	3.2456E+21	3.8768E+19
Xe-133	2.6671E+06	1.4249E-02	6.4517E+22	4.0190E+19

```
Xe-135                 1.1173E+06  4.3753E-04  1.9517E+21  1.6680E+19
Cs-134                 4.0169E+05  3.1047E-01  1.3953E+24  6.0541E+18
Cs-136                 9.8150E+04  1.3392E-03  5.9300E+21  1.4795E+18
Cs-137                 2.5504E+05  2.9321E+00  1.2889E+25  3.8439E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    4.8591E+23  0.0000E+00
Elemental I (atoms)    3.1984E+21  0.0000E+00
Organic I (atoms)      9.8918E+19  0.0000E+00
Aerosols (kg)          3.2577E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.0867E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   9.0129E-04
Total I (Ci)                                   1.1270E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4613E+19
Elemental I (atoms)    0.0000E+00  9.6373E+16
Organic I (atoms)      0.0000E+00  2.9806E+15
Aerosols (kg)          0.0000E+00  9.7969E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4613E+19
Elemental I (atoms)    0.0000E+00  9.6373E+16
Organic I (atoms)      0.0000E+00  2.9806E+15
Aerosols (kg)          0.0000E+00  9.7969E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.2943E+18
Elemental I (atoms)    0.0000E+00  4.8106E+16
Organic I (atoms)      0.0000E+00  1.4878E+15
Aerosols (kg)          0.0000E+00  4.8902E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.3720E+13
Elemental I (atoms)    0.0000E+00  3.5430E+11
Organic I (atoms)      0.0000E+00  1.0958E+10
Aerosols (kg)          0.0000E+00  3.6014E-10

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.9701E+03
Elemental I (atoms)    0.0000E+00  3.9364E+01
Organic I (atoms)      0.0000E+00  1.2174E+00
Aerosols (kg)          0.0000E+00  4.0025E-20

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  1.9616E-02  4.9998E-08  3.5423E+17  7.2579E+08
Kr-85m                 3.0860E-01  3.7499E-11  2.6567E+14  1.1418E+10
Kr-87                  5.6164E-01  1.9828E-11  1.3725E+14  2.0780E+10
Kr-88                  8.2859E-01  6.6080E-11  4.5221E+14  3.0658E+10
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Rb-86	3.1388E-04	3.8576E-12	2.7012E+13	1.1614E+07
I-131	1.7761E-01	1.4326E-09	6.5860E+15	6.5716E+09
I-132	2.4733E-01	2.3961E-11	1.0932E+14	9.1513E+09
I-133	3.6229E-01	3.1982E-10	1.4481E+15	1.3405E+10
I-134	3.5506E-01	1.3310E-11	5.9816E+13	1.3137E+10
I-135	3.3468E-01	9.5299E-11	4.2512E+14	1.2383E+10
Xe-133	2.2571E+00	1.2058E-08	5.4599E+16	8.3513E+10
Xe-135	9.3693E-01	3.6689E-10	1.6366E+15	3.4667E+10
Cs-134	3.8801E-02	2.9989E-08	1.3478E+17	1.4356E+09
Cs-136	9.4810E-03	1.2936E-10	5.7281E+14	3.5080E+08
Cs-137	2.4636E-02	2.8323E-07	1.2450E+18	9.1152E+08

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	4.1132E+17	6.8540E+14
Elemental I (atoms)	2.4922E+15	4.1528E+12
Organic I (atoms)	8.3751E+13	1.3956E+11
Aerosols (kg)	3.1467E-07	5.2435E-10
Dose Effective (Ci) I-131 (Thyroid)		2.4943E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		3.1727E-01
Total I (Ci)		1.4770E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7138E+17
Elemental I (atoms)	1.6748E+14	2.2811E+15
Organic I (atoms)	0.0000E+00	7.5728E+13
Aerosols (kg)	2.1865E-06	3.0325E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6153E+16
Elemental I (atoms)	3.4194E+13	1.9422E+14
Organic I (atoms)	0.0000E+00	7.3711E+12
Aerosols (kg)	4.5206E-08	1.1147E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3883E+15
Elemental I (atoms)	4.1623E+12	2.3642E+13
Organic I (atoms)	0.0000E+00	8.9472E+11
Aerosols (kg)	2.8786E-09	3.5469E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5524E+14
Elemental I (atoms)	0.0000E+00	3.3691E+12
Organic I (atoms)	0.0000E+00	1.1322E+11
Aerosols (kg)	0.0000E+00	4.2474E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0095E+15
Elemental I (atoms)	0.0000E+00	6.1256E+12
Organic I (atoms)	0.0000E+00	2.0585E+11

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Aerosols (kg)          0.0000E+00  7.7225E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.4081E+14  0.0000E+00
Elemental I (atoms)    1.4636E+12  0.0000E+00
Organic I (atoms)      4.9098E+10  0.0000E+00
Aerosols (kg)          1.8598E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.2423E-03  3.6941E-01  2.0253E-02
Accumulated dose (rem)  5.4748E-03  3.9332E-01  2.1468E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4930E-04  3.8707E-02  2.1222E-03
Accumulated dose (rem)  5.7366E-04  4.1212E-02  2.2494E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.3770E-04  8.9948E-01  3.7087E-02
Accumulated dose (rem)  4.4606E-04  9.2166E-01  3.8006E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  6.9490E+04  1.7712E-01  1.2549E+24  2.6941E+18
Kr-85m                 1.0364E+06  1.2594E-04  8.9225E+20  4.1297E+19
Kr-87                  1.6486E+06  5.8201E-05  4.0287E+20  7.0503E+19
Kr-88                  2.6983E+06  2.1519E-04  1.4726E+21  1.0925E+20
Rb-86                  1.3120E+03  1.6124E-05  1.1291E+20  1.1638E+17
I-131                  5.5313E+05  4.4617E-03  2.0511E+22  4.8784E+19
I-132                  7.7031E+05  7.4627E-05  3.4046E+20  6.8995E+19
I-133                  1.1166E+06  9.8569E-04  4.4631E+21  9.9289E+19
I-134                  8.4250E+05  3.1582E-05  1.4193E+20  9.2559E+19
I-135                  1.0063E+06  2.8656E-04  1.2783E+21  9.1252E+19
Xe-133                 7.9896E+06  4.2684E-02  1.9327E+23  3.0992E+20
Xe-135                 3.3307E+06  1.3043E-03  5.8181E+21  1.2937E+20
Cs-134                 1.6227E+05  1.2542E-01  5.6364E+23  1.4388E+19
Cs-136                 3.9621E+04  5.4059E-04  2.3938E+21  3.5152E+18
Cs-137                 1.0303E+05  1.1845E+00  5.2067E+24  9.1354E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.4567E+24  0.0000E+00
Elemental I (atoms)    1.2842E+21  8.2259E+21
Organic I (atoms)      2.9466E+20  0.0000E+00
Aerosols (kg)          1.3160E+00  8.3927E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8756E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6336E-04
Total I (Ci)                                   4.2889E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3629E+20
Elemental I (atoms)    0.0000E+00  3.0246E+17
Organic I (atoms)      0.0000E+00  2.7684E+16
Aerosols (kg)          0.0000E+00  3.0823E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3629E+20
Elemental I (atoms)	0.0000E+00	3.0246E+17
Organic I (atoms)	0.0000E+00	2.7684E+16
Aerosols (kg)	0.0000E+00	3.0823E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8030E+19
Elemental I (atoms)	0.0000E+00	1.5097E+17
Organic I (atoms)	0.0000E+00	1.3819E+16
Aerosols (kg)	0.0000E+00	1.5385E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.8317E+14
Elemental I (atoms)	0.0000E+00	1.0816E+12
Organic I (atoms)	0.0000E+00	9.8145E+10
Aerosols (kg)	0.0000E+00	1.1022E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6106E+05
Elemental I (atoms)	0.0000E+00	5.5334E+02
Organic I (atoms)	0.0000E+00	3.2684E+01
Aerosols (kg)	0.0000E+00	5.6510E-19

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	6.6047E-01	1.6834E-06	1.1927E+19	2.4437E+10
Kr-85m	9.9679E+00	1.2112E-09	8.5814E+15	3.6881E+11
Kr-87	1.6352E+01	5.7727E-10	3.9959E+15	6.0501E+11
Kr-88	2.6132E+01	2.0840E-09	1.4262E+16	9.6690E+11
Rb-86	4.9582E-03	6.0935E-11	4.2670E+14	1.8345E+08
I-131	2.9305E+00	2.3638E-08	1.0866E+17	1.0843E+11
I-132	3.8724E+00	3.7516E-10	1.7116E+15	1.4328E+11
I-133	5.9355E+00	5.2396E-09	2.3725E+16	2.1961E+11
I-134	4.8777E+00	1.8285E-10	8.2173E+14	1.8048E+11
I-135	5.3912E+00	1.5351E-09	6.8480E+15	1.9947E+11
Xe-133	7.5949E+01	4.0575E-07	1.8372E+18	2.8101E+12
Xe-135	3.1626E+01	1.2384E-08	5.5244E+16	1.1702E+12
Cs-134	6.1313E-01	4.7389E-07	2.1297E+18	2.2686E+10
Cs-136	1.4974E-01	2.0431E-09	9.0470E+15	5.5404E+09
Cs-137	3.8929E-01	4.4756E-06	1.9673E+19	1.4404E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.3846E+19	7.6924E+15
Elemental I (atoms)	4.3798E+16	2.4332E+13
Organic I (atoms)	2.8040E+15	1.5578E+12
Aerosols (kg)	4.9724E-06	2.7624E-09

Dose Effective (Ci) I-131 (Thyroid)	4.1025E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	5.1884E+00
Total I (Ci)	2.3007E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0589E+19
Elemental I (atoms)	2.4206E+15	3.2968E+16
Organic I (atoms)	0.0000E+00	2.1489E+15
Aerosols (kg)	3.1738E-05	4.4018E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8806E+18
Elemental I (atoms)	1.7001E+15	9.6568E+15
Organic I (atoms)	0.0000E+00	5.8431E+14
Aerosols (kg)	2.2589E-06	5.5699E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8042E+17
Elemental I (atoms)	2.2966E+14	1.3045E+15
Organic I (atoms)	0.0000E+00	7.7161E+13
Aerosols (kg)	1.5964E-07	1.9671E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8692E+16
Elemental I (atoms)	0.0000E+00	5.9240E+13
Organic I (atoms)	0.0000E+00	3.7928E+12
Aerosols (kg)	0.0000E+00	6.7116E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3985E+16
Elemental I (atoms)	0.0000E+00	1.0771E+14
Organic I (atoms)	0.0000E+00	6.8960E+12
Aerosols (kg)	0.0000E+00	1.2203E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	1.9745E+16	0.0000E+00
Elemental I (atoms)	7.3892E+13	0.0000E+00
Organic I (atoms)	4.0049E+12	0.0000E+00
Aerosols (kg)	8.5909E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.1454E-03	3.2153E-01	2.0500E-02
Accumulated dose (rem)	1.2620E-02	7.1484E-01	4.1968E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.4870E-04	3.3690E-02	2.1480E-03
Accumulated dose (rem)	1.3224E-03	7.4902E-02	4.3975E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.2372E-04	1.0757E+00	4.4685E-02
Accumulated dose (rem)	1.1698E-03	1.9973E+00	8.2691E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.7021E+01	1.4787E-06	1.5354E+19	9.4786E+14
Co-60	5.6293E+01	4.9800E-05	4.9983E+20	1.1347E+15
Kr-85	2.1623E+05	5.5115E-01	3.9048E+24	6.7134E+18
Kr-85m	3.1429E+06	3.8190E-04	2.7057E+21	1.0042E+20
Kr-87	4.6843E+06	1.6537E-04	1.1447E+21	1.6133E+20
Kr-88	8.0617E+06	6.4292E-04	4.3997E+21	2.6195E+20
Rb-86	1.6969E+03	2.0855E-05	1.4604E+20	1.5328E+17
Sr-89	6.6788E+04	2.2989E-03	1.5555E+22	1.3463E+18
Sr-90	9.2210E+03	6.7599E-02	4.5232E+23	1.8587E+17
Sr-91	7.9276E+04	2.1869E-05	1.4473E+20	1.6074E+18
Sr-92	7.5678E+04	6.0208E-06	3.9411E+19	1.5571E+18
Y-90	1.0430E+02	1.9170E-07	1.2827E+18	1.9340E+15
Y-91	8.5807E+02	3.4989E-05	2.3155E+20	1.7269E+16
Y-92	2.3404E+03	2.4322E-07	1.5921E+18	2.1983E+16
Y-93	9.8218E+02	2.9439E-07	1.9063E+18	1.9907E+16
Zr-95	1.1339E+03	5.2781E-05	3.3458E+20	2.2857E+16
Zr-97	1.0955E+03	5.7306E-07	3.5577E+18	2.2155E+16
Nb-95	1.1423E+03	2.9214E-05	1.8519E+20	2.3026E+16
Mo-99	1.5597E+04	3.2520E-05	1.9782E+20	3.1466E+17
Tc-99m	1.3774E+04	2.6195E-06	1.5934E+19	2.7628E+17
Ru-103	1.3252E+04	4.1060E-04	2.4007E+21	2.6713E+17
Ru-105	8.5296E+03	1.2689E-06	7.2777E+18	1.7410E+17
Ru-106	5.8136E+03	1.7377E-03	9.8723E+21	1.1719E+17
Rh-105	8.9248E+03	1.0574E-05	6.0644E+19	1.7976E+17
Sb-127	1.8206E+04	6.8172E-05	3.2326E+20	3.6720E+17
Sb-129	4.8752E+04	8.6696E-06	4.0472E+19	9.9544E+17
Te-127	1.8155E+04	6.8792E-06	3.2620E+19	3.6494E+17
Te-127m	2.4481E+03	2.5954E-04	1.2307E+21	4.9347E+16
Te-129	5.0924E+04	2.4317E-06	1.1352E+19	1.0109E+18
Te-129m	7.9383E+03	2.6351E-04	1.2302E+21	1.6000E+17
Te-131m	2.3900E+04	2.9972E-05	1.3778E+20	4.8265E+17
Te-132	2.3522E+05	7.7479E-04	3.5348E+21	4.7448E+18
I-131	8.8246E+05	7.1181E-03	3.2722E+22	6.7698E+19
I-132	1.2449E+06	1.2060E-04	5.5021E+20	9.5835E+19
I-133	1.7725E+06	1.5647E-03	7.0846E+21	1.3737E+20
I-134	1.1787E+06	4.4186E-05	1.9858E+20	1.1953E+20
I-135	1.5785E+06	4.4948E-04	2.0050E+21	1.2537E+20
Xe-133	2.4862E+07	1.3282E-01	6.0142E+23	7.7216E+20
Xe-135	1.0493E+07	4.1087E-03	1.8328E+22	3.2458E+20
Cs-134	2.0993E+05	1.6226E-01	7.2920E+23	1.8952E+19
Cs-136	5.1240E+04	6.9913E-04	3.0958E+21	4.6293E+18
Cs-137	1.3329E+05	1.5324E+00	6.7361E+24	1.2033E+19
Ba-139	8.7519E+04	5.3506E-06	2.3181E+19	1.8371E+18
Ba-140	1.1812E+05	1.6134E-03	6.9402E+21	2.3814E+18
La-140	1.4686E+03	2.6421E-06	1.1365E+19	2.6176E+16
La-141	9.9374E+02	1.7572E-07	7.5049E+17	2.0316E+16
La-142	7.9798E+02	5.5744E-08	2.3641E+17	1.6678E+16
Ce-141	2.7941E+03	9.8062E-05	4.1883E+20	5.6323E+16
Ce-143	2.5747E+03	3.8771E-06	1.6328E+19	5.1987E+16
Ce-144	2.3254E+03	7.2908E-04	3.0490E+21	4.6874E+16
Pr-143	1.0120E+03	1.5029E-05	6.3291E+19	2.0392E+16
Nd-147	4.4563E+02	5.5084E-06	2.2566E+19	8.9845E+15
Np-239	3.2976E+04	1.4214E-04	3.5816E+20	6.6536E+17
Pu-238	1.2951E+01	7.5647E-04	1.9141E+21	2.6105E+14
Pu-239	7.6726E-01	1.2344E-02	3.1103E+22	1.5466E+13
Pu-240	7.7334E-01	3.3938E-03	8.5159E+21	1.5588E+13
Pu-241	4.6099E+02	4.4750E-03	1.1182E+22	9.2923E+15
Am-241	3.2634E-01	9.5084E-05	2.3760E+20	6.5781E+12
Cm-242	6.4124E+01	1.9348E-05	4.8146E+19	1.2926E+15

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Cm-244                 8.2415E+00  1.0187E-04  2.5142E+20  1.6613E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    4.5328E+24  0.0000E+00
Elemental I (atoms)    2.0451E+21  1.2792E+22
Organic I (atoms)      4.5704E+20  0.0000E+00
Aerosols (kg)          1.8017E+00  1.2543E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.5789E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.7713E-04
Total I (Ci)                                   6.6570E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2391E+20
Elemental I (atoms)    0.0000E+00  4.1684E+17
Organic I (atoms)      0.0000E+00  5.1255E+16
Aerosols (kg)          0.0000E+00  4.1221E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2391E+20
Elemental I (atoms)    0.0000E+00  4.1684E+17
Organic I (atoms)      0.0000E+00  5.1255E+16
Aerosols (kg)          0.0000E+00  4.1221E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6168E+20
Elemental I (atoms)    0.0000E+00  2.0807E+17
Organic I (atoms)      0.0000E+00  2.5585E+16
Aerosols (kg)          0.0000E+00  2.0576E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1454E+15
Elemental I (atoms)    0.0000E+00  1.4854E+12
Organic I (atoms)      0.0000E+00  1.8134E+11
Aerosols (kg)          0.0000E+00  1.4692E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.1359E+05
Elemental I (atoms)    0.0000E+00  9.7516E+02
Organic I (atoms)      0.0000E+00  7.8082E+01
Aerosols (kg)          0.0000E+00  9.9228E-19

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  8.2028E-06  2.5797E-13  2.6785E+12  3.0350E+05
Co-60                  9.8201E-06  8.6874E-12  8.7195E+13  3.6334E+05
Kr-85                  1.7573E+00  4.4792E-06  3.1735E+19  6.5022E+10
Kr-85m                 2.5992E+01  3.1584E-09  2.2377E+16  9.6170E+11
Kr-87                  4.0546E+01  1.4314E-09  9.9084E+15  1.5002E+12
Kr-88                  6.7356E+01  5.3717E-09  3.6760E+16  2.4922E+12
Rb-86                  8.7745E-03  1.0784E-10  7.5514E+14  3.2466E+08
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Sr-89	1.1651E-02	4.0104E-10	2.7136E+15	4.3109E+08
Sr-90	1.6086E-03	1.1793E-08	7.8907E+16	5.9517E+07
Sr-91	1.3847E-02	3.8199E-12	2.5279E+13	5.1234E+08
Sr-92	1.3261E-02	1.0550E-12	6.9058E+12	4.9064E+08
Y-90	1.8939E-05	3.4810E-14	2.3292E+11	7.0074E+05
Y-91	1.4981E-04	6.1089E-12	4.0427E+13	5.5431E+06
Y-92	5.2199E-04	5.4247E-14	3.5509E+11	1.9313E+07
Y-93	1.7154E-04	5.1417E-14	3.3294E+11	6.3471E+06
Zr-95	1.9781E-04	9.2076E-12	5.8368E+13	7.3188E+06
Zr-97	1.9124E-04	1.0004E-13	6.2108E+11	7.0759E+06
Nb-95	1.9928E-04	5.0962E-12	3.2305E+13	7.3733E+06
Mo-99	2.7214E-03	5.6741E-12	3.4515E+13	1.0069E+08
Tc-99m	2.4028E-03	4.5697E-13	2.7797E+12	8.8905E+07
Ru-103	2.3117E-03	7.1629E-11	4.1879E+14	8.5534E+07
Ru-105	1.4920E-03	2.2196E-13	1.2730E+12	5.5204E+07
Ru-106	1.0142E-03	3.0314E-10	1.7222E+15	3.7524E+07
Rh-105	1.5569E-03	1.8446E-12	1.0579E+13	5.7606E+07
Sb-127	3.1763E-03	1.1894E-11	5.6400E+13	1.1752E+08
Sb-129	8.5284E-03	1.5166E-12	7.0799E+12	3.1555E+08
Te-127	3.1673E-03	1.2001E-12	5.6908E+12	1.1719E+08
Te-127m	4.2707E-04	4.5276E-11	2.1469E+14	1.5802E+07
Te-129	8.8968E-03	4.2482E-13	1.9832E+12	3.2918E+08
Te-129m	1.3848E-03	4.5969E-11	2.1460E+14	5.1238E+07
Te-131m	4.1709E-03	5.2306E-12	2.4045E+13	1.5432E+08
Te-132	4.1040E-02	1.3518E-10	6.1673E+14	1.5185E+09
I-131	5.3283E+00	4.2979E-08	1.9758E+17	1.9715E+11
I-132	6.9139E+00	6.6981E-10	3.0558E+15	2.5581E+11
I-133	1.0758E+01	9.4965E-09	4.2999E+16	3.9804E+11
I-134	8.1776E+00	3.0655E-10	1.3777E+15	3.0257E+11
I-135	9.6972E+00	2.7613E-09	1.2318E+16	3.5880E+11
Xe-133	2.0200E+02	1.0792E-06	4.8863E+18	7.4739E+12
Xe-135	8.3995E+01	3.2891E-08	1.4672E+17	3.1078E+12
Cs-134	1.0852E+00	8.3878E-07	3.7696E+18	4.0154E+10
Cs-136	2.6498E-01	3.6155E-09	1.6010E+16	9.8043E+09
Cs-137	6.8905E-01	7.9218E-06	3.4822E+19	2.5495E+10
Ba-139	1.5402E-02	9.4162E-13	4.0796E+12	5.6988E+08
Ba-140	2.0606E-02	2.8147E-10	1.2107E+15	7.6242E+08
La-140	2.7135E-04	4.8819E-13	2.0999E+12	1.0040E+07
La-141	1.7389E-04	3.0747E-14	1.3132E+11	6.4338E+06
La-142	1.4030E-04	9.8009E-15	4.1565E+10	5.1911E+06
Ce-141	4.8742E-04	1.7106E-11	7.3062E+13	1.8035E+07
Ce-143	4.4931E-04	6.7659E-13	2.8493E+12	1.6625E+07
Ce-144	4.0566E-04	1.2719E-10	5.3190E+14	1.5009E+07
Pr-143	1.7657E-04	2.6221E-12	1.1043E+13	6.5332E+06
Nd-147	7.7742E-05	9.6098E-13	3.9368E+12	2.8764E+06
Np-239	5.7538E-03	2.4802E-11	6.2494E+13	2.1289E+08
Pu-238	2.2592E-06	1.3196E-10	3.3391E+14	8.3590E+04
Pu-239	1.3385E-07	2.1534E-09	5.4259E+15	4.9523E+03
Pu-240	1.3491E-07	5.9204E-10	1.4856E+15	4.9916E+03
Pu-241	8.0418E-05	7.8066E-10	1.9507E+15	2.9755E+06
Am-241	5.6930E-08	1.6587E-11	4.1448E+13	2.1064E+03
Cm-242	1.1186E-05	3.3752E-12	8.3990E+12	4.1389E+05
Cm-244	1.4377E-06	1.7771E-11	4.3860E+13	5.3196E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.6837E+19	1.5348E+16
Elemental I (atoms)	8.0890E+16	3.3702E+13
Organic I (atoms)	7.0069E+15	2.9194E+12
Aerosols (kg)	8.8183E-06	3.6741E-09

Dose Effective (Ci) I-131 (Thyroid)	7.4490E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.3994E+00
Total I (Ci)	4.0875E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6943E+19
Elemental I (atoms)    4.1701E+15  5.6796E+16
Organic I (atoms)      0.0000E+00  5.0636E+15
Aerosols (kg)          5.4441E-05  7.5506E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.7182E+18
Elemental I (atoms)    3.7398E+15  2.1242E+16
Organic I (atoms)      0.0000E+00  1.7211E+15
Aerosols (kg)          4.9721E-06  1.2260E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1933E+18
Elemental I (atoms)    5.3245E+14  3.0243E+15
Organic I (atoms)      0.0000E+00  2.3620E+14
Aerosols (kg)          3.7048E-07  4.5649E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9727E+16
Elemental I (atoms)    0.0000E+00  1.0939E+14
Organic I (atoms)      0.0000E+00  9.4756E+12
Aerosols (kg)          0.0000E+00  1.1903E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.0413E+16
Elemental I (atoms)    0.0000E+00  1.9890E+14
Organic I (atoms)      0.0000E+00  1.7228E+13
Aerosols (kg)          0.0000E+00  2.1641E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    6.0389E+16  0.0000E+00
Elemental I (atoms)    1.6382E+14  0.0000E+00
Organic I (atoms)      1.1933E+13  0.0000E+00
Aerosols (kg)          1.8336E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1976E-02  1.0078E+00  8.7716E-02
Accumulated dose (rem)  5.4596E-02  1.7227E+00  1.2968E-01

Low Population Zone Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.3982E-03  1.0560E-01  9.1910E-03
Accumulated dose (rem)  5.7206E-03  1.8050E-01  1.3588E-02

Control Room Doses:
```

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9322E-03	2.2217E+00	9.5566E-02
Accumulated dose (rem)	4.1019E-03	4.2191E+00	1.7826E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 1.0000	Ci	kg	Atoms	Decay
Co-58	5.1188E+01	1.6098E-06	1.6714E+19	3.2008E+15
Co-60	6.1289E+01	5.4219E-05	5.4419E+20	3.8321E+15
Kr-85	5.0957E+05	1.2988E+00	9.2019E+24	2.4648E+19
Kr-85m	7.0341E+06	8.5474E-04	6.0557E+21	3.5371E+20
Kr-87	9.2049E+06	3.2497E-04	2.2494E+21	5.1280E+20
Kr-88	1.7513E+07	1.3967E-03	9.5580E+21	9.0105E+20
Rb-86	1.7302E+03	2.1264E-05	1.4890E+20	2.2995E+17
Sr-89	7.2702E+04	2.5025E-03	1.6933E+22	4.5463E+18
Sr-90	1.0039E+04	7.3599E-02	4.9247E+23	6.2771E+17
Sr-91	8.4239E+04	2.3238E-05	1.5379E+20	5.3599E+18
Sr-92	7.5662E+04	6.0196E-06	3.9403E+19	5.0322E+18
Y-90	1.1681E+02	2.1470E-07	1.4366E+18	6.5975E+15
Y-91	9.3462E+02	3.8111E-05	2.5221E+20	5.8328E+16
Y-92	2.8643E+03	2.9767E-07	1.9485E+18	8.3104E+16
Y-93	1.0452E+03	3.1327E-07	2.0286E+18	6.6433E+16
Zr-95	1.2343E+03	5.7457E-05	3.6423E+20	7.7186E+16
Zr-97	1.1765E+03	6.1545E-07	3.8209E+18	7.4288E+16
Nb-95	1.2437E+03	3.1806E-05	2.0162E+20	7.7761E+16
Mo-99	1.6922E+04	3.5283E-05	2.1462E+20	1.0607E+18
Tc-99m	1.4997E+04	2.8520E-06	1.7349E+19	9.3275E+17
Ru-103	1.4424E+04	4.4693E-04	2.6131E+21	9.0203E+17
Ru-105	8.8158E+03	1.3115E-06	7.5219E+18	5.7230E+17
Ru-106	6.3294E+03	1.8919E-03	1.0748E+22	3.9575E+17
Rh-105	9.7126E+03	1.1507E-05	6.5998E+19	6.0696E+17
Sb-127	1.9772E+04	7.4038E-05	3.5107E+20	1.2385E+18
Sb-129	5.0316E+04	8.9475E-06	4.1770E+19	3.2698E+18
Te-127	1.9745E+04	7.4819E-06	3.5478E+19	1.2315E+18
Te-127m	2.6655E+03	2.8258E-04	1.3400E+21	1.6665E+17
Te-129	5.3859E+04	2.5718E-06	1.2006E+19	3.3595E+18
Te-129m	8.6437E+03	2.8693E-04	1.3395E+21	5.4038E+17
Te-131m	2.5821E+04	3.2382E-05	1.4886E+20	1.6234E+18
Te-132	2.5534E+05	8.4107E-04	3.8372E+21	1.5999E+19
I-131	9.1720E+05	7.3983E-03	3.4010E+22	1.0820E+20
I-132	1.2887E+06	1.2485E-04	5.6959E+20	1.5328E+20
I-133	1.8238E+06	1.6100E-03	7.2900E+21	2.1830E+20
I-134	9.4233E+05	3.5324E-05	1.5875E+20	1.6709E+20
I-135	1.5860E+06	4.5161E-04	2.0145E+21	1.9659E+20
Xe-133	5.8542E+07	3.1276E-01	1.4161E+24	2.8337E+21
Xe-135	2.4750E+07	9.6917E-03	4.3233E+22	1.1987E+21
Cs-134	2.1416E+05	1.6552E-01	7.4389E+23	2.8440E+19
Cs-136	5.2234E+04	7.1269E-04	3.1558E+21	6.9442E+18
Cs-137	1.3598E+05	1.5633E+00	6.8718E+24	1.8057E+19
Ba-139	8.0583E+04	4.9265E-06	2.1344E+19	5.6962E+18
Ba-140	1.2850E+05	1.7553E-03	7.5505E+21	8.0390E+18
La-140	1.6646E+03	2.9948E-06	1.2882E+19	8.9736E+16
La-141	1.0202E+03	1.8039E-07	7.7045E+17	6.6553E+16
La-142	7.4789E+02	5.2245E-08	2.2157E+17	5.2171E+16
Ce-141	3.0420E+03	1.0676E-04	4.5598E+20	1.9021E+17
Ce-143	2.7837E+03	4.1918E-06	1.7653E+19	1.7493E+17
Ce-144	2.5317E+03	7.9377E-04	3.3196E+21	1.5830E+17
Pr-143	1.1020E+03	1.6365E-05	6.8916E+19	6.8871E+16
Nd-147	4.8475E+02	5.9921E-06	2.4548E+19	3.0328E+16
Np-239	3.5757E+04	1.5413E-04	3.8836E+20	2.2422E+18
Pu-238	1.4100E+01	8.2362E-04	2.0840E+21	8.8161E+14
Pu-239	8.3540E-01	1.3440E-02	3.3866E+22	5.2231E+13
Pu-240	8.4198E-01	3.6951E-03	9.2717E+21	5.2645E+13
Pu-241	5.0190E+02	4.8722E-03	1.2175E+22	3.1381E+16
Am-241	3.5532E-01	1.0353E-04	2.5869E+20	2.2215E+13
Cm-242	6.9811E+01	2.1064E-05	5.2416E+19	4.3651E+15
Cm-244	8.9730E+00	1.1091E-04	2.7374E+20	5.6104E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 1.0000	Atmosphere	Sump	
Noble gases (atoms)	1.0679E+25	0.0000E+00	
Elemental I (atoms)	2.1015E+21	2.3273E+22	
Organic I (atoms)	7.7882E+20	0.0000E+00	
Aerosols (kg)	1.8447E+00	2.1726E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7408E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9447E-04
Total I (Ci)			6.5580E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2767E+21
Elemental I (atoms)	0.0000E+00	6.7943E+17
Organic I (atoms)	0.0000E+00	1.2876E+17
Aerosols (kg)	0.0000E+00	6.4225E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2767E+21
Elemental I (atoms)	0.0000E+00	6.7943E+17
Organic I (atoms)	0.0000E+00	1.2876E+17
Aerosols (kg)	0.0000E+00	6.4225E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3727E+20
Elemental I (atoms)	0.0000E+00	3.3914E+17
Organic I (atoms)	0.0000E+00	6.4274E+16
Aerosols (kg)	0.0000E+00	3.2059E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5081E+15
Elemental I (atoms)	0.0000E+00	2.4121E+12
Organic I (atoms)	0.0000E+00	4.5490E+11
Aerosols (kg)	0.0000E+00	2.2811E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1465E+06
Elemental I (atoms)	0.0000E+00	2.2639E+03
Organic I (atoms)	0.0000E+00	2.8111E+02
Aerosols (kg)	0.0000E+00	2.2437E-18

Environment Integral Nuclide Release:

Time (h) = 1.0000	Ci	kg	Atoms	Bq
Co-58	1.1771E-04	3.7019E-12	3.8437E+13	4.3554E+06
Co-60	1.4094E-04	1.2468E-10	1.2514E+15	5.2147E+06
Kr-85	9.4446E+00	2.4073E-05	1.7055E+20	3.4945E+11
Kr-85m	1.3351E+02	1.6223E-08	1.1494E+17	4.9399E+12
Kr-87	1.8612E+02	6.5706E-09	4.5482E+16	6.8863E+12
Kr-88	3.3712E+02	2.6885E-08	1.8398E+17	1.2473E+13
Rb-86	1.9601E-02	2.4090E-10	1.6869E+15	7.2525E+08
Sr-89	1.6719E-01	5.7549E-09	3.8940E+16	6.1861E+09

Sr-90	2.3086E-02	1.6925E-07	1.1325E+18	8.5419E+08
Sr-91	1.9520E-01	5.3849E-11	3.5636E+14	7.2225E+09
Sr-92	1.7878E-01	1.4224E-11	9.3105E+13	6.6149E+09
Y-90	3.0775E-04	5.6565E-13	3.7849E+12	1.1387E+07
Y-91	2.1558E-03	8.7905E-11	5.8173E+14	7.9763E+07
Y-92	1.2268E-02	1.2749E-12	8.3453E+12	4.5390E+08
Y-93	2.4208E-03	7.2560E-13	4.6986E+12	8.9571E+07
Zr-95	2.8386E-03	1.3213E-10	8.3760E+14	1.0503E+08
Zr-97	2.7172E-03	1.4214E-12	8.8244E+12	1.0054E+08
Nb-95	2.8600E-03	7.3141E-11	4.6364E+14	1.0582E+08
Mo-99	3.8956E-02	8.1224E-11	4.9408E+14	1.4414E+09
Tc-99m	3.4486E-02	6.5584E-12	3.9894E+13	1.2760E+09
Ru-103	3.3172E-02	1.0278E-09	6.0094E+15	1.2274E+09
Ru-105	2.0610E-02	3.0660E-12	1.7585E+13	7.6255E+08
Ru-106	1.4555E-02	4.3505E-09	2.4716E+16	5.3853E+08
Rh-105	2.2338E-02	2.6465E-11	1.5179E+14	8.2651E+08
Sb-127	4.5502E-02	1.7039E-10	8.0795E+14	1.6836E+09
Sb-129	1.1768E-01	2.0927E-11	9.7695E+13	4.3542E+09
Te-127	4.5421E-02	1.7211E-11	8.1610E+13	1.6806E+09
Te-127m	6.1294E-03	6.4981E-10	3.0813E+15	2.2679E+08
Te-129	1.2500E-01	5.9689E-12	2.7865E+13	4.6251E+09
Te-129m	1.9876E-02	6.5978E-10	3.0801E+15	7.3542E+08
Te-131m	5.9522E-02	7.4644E-11	3.4314E+14	2.2023E+09
Te-132	5.8772E-01	1.9359E-09	8.8320E+15	2.1746E+10
I-131	1.2804E+01	1.0328E-07	4.7479E+17	4.7376E+11
I-132	1.6166E+01	1.5661E-09	7.1449E+15	5.9813E+11
I-133	2.5674E+01	2.2664E-08	1.0262E+17	9.4994E+11
I-134	1.6557E+01	6.2064E-10	2.7892E+15	6.1259E+11
I-135	2.2768E+01	6.4833E-09	2.8921E+16	8.4243E+11
Xe-133	1.0847E+03	5.7950E-06	2.6239E+19	4.0134E+13
Xe-135	4.5059E+02	1.7644E-07	7.8708E+17	1.6672E+13
Cs-134	2.4251E+00	1.8744E-06	8.4237E+18	8.9729E+10
Cs-136	5.9186E-01	8.0755E-09	3.5759E+16	2.1899E+10
Cs-137	1.5398E+00	1.7702E-05	7.7815E+19	5.6972E+10
Ba-139	1.9562E-01	1.1960E-11	5.1814E+13	7.2380E+09
Ba-140	2.9557E-01	4.0374E-09	1.7367E+16	1.0936E+10
La-140	4.6240E-03	8.3191E-12	3.5785E+13	1.7109E+08
La-141	2.3901E-03	4.2263E-13	1.8051E+12	8.8434E+07
La-142	1.8049E-03	1.2609E-13	5.3472E+11	6.6782E+07
Ce-141	6.9948E-03	2.4549E-10	1.0485E+15	2.5881E+08
Ce-143	6.4153E-03	9.6604E-12	4.0683E+13	2.3737E+08
Ce-144	5.8219E-03	1.8253E-09	7.6336E+15	2.1541E+08
Pr-143	2.5354E-03	3.7651E-11	1.5856E+14	9.3808E+07
Nd-147	1.1150E-03	1.3783E-11	5.6465E+13	4.1256E+07
Np-239	8.2330E-02	3.5488E-10	8.9421E+14	3.0462E+09
Pu-238	3.2424E-05	1.8940E-09	4.7923E+15	1.1997E+06
Pu-239	1.9210E-06	3.0906E-08	7.7875E+16	7.1078E+04
Pu-240	1.9362E-06	8.4970E-09	2.1321E+16	7.1639E+04
Pu-241	1.1542E-03	1.1204E-08	2.7997E+16	4.2704E+07
Am-241	8.1710E-07	2.3807E-10	5.9489E+14	3.0233E+04
Cm-242	1.6054E-04	4.8438E-11	1.2054E+14	5.9399E+06
Cm-244	2.0634E-05	2.5505E-10	6.2948E+14	7.6346E+05

Environment Transport Group Inventory:

Time (h) = 1.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.9792E+20	5.4979E+16	
Elemental I (atoms)	1.9655E+17	5.4597E+13	
Organic I (atoms)	2.6626E+16	7.3962E+12	
Aerosols (kg)	1.9915E-05	5.5320E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.7850E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.2426E+01
Total I (Ci)			9.3969E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3771E+20
Elemental I (atoms)    9.2790E+15  1.2638E+17
Organic I (atoms)      0.0000E+00  1.7674E+16
Aerosols (kg)          1.1762E-04  1.6313E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.2724E+19
Elemental I (atoms)    1.0748E+16  6.1051E+16
Organic I (atoms)      0.0000E+00  7.8511E+15
Aerosols (kg)          1.4051E-05  3.4645E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5421E+18
Elemental I (atoms)    1.6730E+15  9.5025E+15
Organic I (atoms)      0.0000E+00  1.1527E+15
Aerosols (kg)          1.1480E-06  1.4146E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2765E+17
Elemental I (atoms)    1.2669E+14  1.1067E+14
Organic I (atoms)      2.1491E+13  9.6927E+12
Aerosols (kg)          1.2132E-08  1.2025E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2946E+17
Elemental I (atoms)    0.0000E+00  2.2698E+14
Organic I (atoms)      0.0000E+00  2.1992E+13
Aerosols (kg)          0.0000E+00  2.4331E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    1.3313E+17  0.0000E+00
Elemental I (atoms)    2.2992E+14  0.0000E+00
Organic I (atoms)      1.9045E+13  0.0000E+00
Aerosols (kg)          2.5297E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.3062E-01  5.9592E+00  9.1969E-01
Accumulated dose (rem)  6.8521E-01  7.6819E+00  1.0494E+00

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.6076E-02  6.2441E-01  9.6366E-02
Accumulated dose (rem)  7.1797E-02  8.0491E-01  1.0995E-01

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	5.3674E-02	5.5065E+00	3.0270E-01
Accumulated dose (rem)	5.7776E-02	9.7256E+00	4.8096E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.1195E+01	1.6100E-06	1.6717E+19	1.0021E+16
Co-60	6.1322E+01	5.4249E-05	5.4449E+20	1.2000E+16
Kr-85	1.3891E+06	3.5406E+00	2.5085E+25	1.5170E+20
Kr-85m	1.6426E+07	1.9960E-03	1.4142E+22	1.9592E+21
Kr-87	1.4549E+07	5.1363E-04	3.5554E+21	2.2083E+21
Kr-88	3.7403E+07	2.9829E-03	2.0413E+22	4.7029E+21
Rb-86	1.7278E+03	2.1234E-05	1.4869E+20	4.6027E+17
Sr-89	7.2701E+04	2.5024E-03	1.6932E+22	1.4232E+19
Sr-90	1.0045E+04	7.3639E-02	4.9274E+23	1.9657E+18
Sr-91	7.8355E+04	2.1615E-05	1.4304E+20	1.6187E+19
Sr-92	5.8619E+04	4.6636E-06	3.0527E+19	1.3929E+19
Y-90	1.1077E+02	2.0361E-07	1.3624E+18	2.1260E+16
Y-91	9.3378E+02	3.8076E-05	2.5198E+20	1.8271E+17
Y-92	1.7258E+03	1.7935E-07	1.1740E+18	3.2142E+17
Y-93	9.7639E+02	2.9266E-07	1.8951E+18	2.0105E+17
Zr-95	1.2345E+03	5.7463E-05	3.6426E+20	2.4165E+17
Zr-97	1.1299E+03	5.9104E-07	3.6694E+18	2.2791E+17
Nb-95	1.2444E+03	3.1823E-05	2.0173E+20	2.4351E+17
Mo-99	1.6755E+04	3.4933E-05	2.1250E+20	3.3041E+18
Tc-99m	1.4986E+04	2.8499E-06	1.7336E+19	2.9291E+18
Ru-103	1.4422E+04	4.4685E-04	2.6126E+21	2.8236E+18
Ru-105	7.5458E+03	1.1225E-06	6.4382E+18	1.6601E+18
Ru-106	6.3324E+03	1.8928E-03	1.0753E+22	1.2392E+18
Rh-105	9.6879E+03	1.1478E-05	6.5829E+19	1.8995E+18
Sb-127	1.9635E+04	7.3525E-05	3.4864E+20	3.8636E+18
Sb-129	4.2880E+04	7.6254E-06	3.5598E+19	9.4650E+18
Te-127	1.9687E+04	7.4596E-06	3.5372E+19	3.8575E+18
Te-127m	2.6672E+03	2.8277E-04	1.3408E+21	5.2190E+17
Te-129	4.8215E+04	2.3023E-06	1.0748E+19	1.0143E+19
Te-129m	8.6499E+03	2.8713E-04	1.3404E+21	1.6924E+18
Te-131m	2.5246E+04	3.1660E-05	1.4554E+20	5.0252E+18
Te-132	2.5323E+05	8.3411E-04	3.8054E+21	4.9878E+19
I-131	9.3462E+05	7.5388E-03	3.4656E+22	2.3155E+20
I-132	1.3261E+06	1.2847E-04	5.8612E+20	3.2869E+20
I-133	1.8033E+06	1.5919E-03	7.2078E+21	4.5992E+20
I-134	4.3689E+05	1.6377E-05	7.3601E+19	2.5469E+20
I-135	1.4598E+06	4.1569E-04	1.8543E+21	3.9937E+20
Xe-133	1.5917E+08	8.5036E-01	3.8504E+24	1.7408E+22
Xe-135	6.7043E+07	2.6253E-02	1.1711E+23	7.3567E+21
Cs-134	2.1418E+05	1.6554E-01	7.4396E+23	5.6969E+19
Cs-136	5.2126E+04	7.1122E-04	3.1493E+21	1.3895E+19
Cs-137	1.3600E+05	1.5635E+00	6.8727E+24	3.6172E+19
Ba-139	4.8762E+04	2.9811E-06	1.2916E+19	1.4136E+19
Ba-140	1.2828E+05	1.7523E-03	7.5376E+21	2.5145E+19
La-140	1.5399E+03	2.7705E-06	1.1917E+19	2.9307E+17
La-141	8.5569E+02	1.5131E-07	6.4623E+17	1.9120E+17
La-142	4.7733E+02	3.3345E-08	1.4141E+17	1.3245E+17
Ce-141	3.0431E+03	1.0680E-04	4.5615E+20	5.9558E+17
Ce-143	2.7273E+03	4.1069E-06	1.7295E+19	5.4204E+17
Ce-144	2.5329E+03	7.9412E-04	3.3211E+21	4.9568E+17
Pr-143	1.1024E+03	1.6371E-05	6.8942E+19	2.1570E+17
Nd-147	4.8375E+02	5.9797E-06	2.4497E+19	9.4846E+16
Np-239	3.5340E+04	1.5233E-04	3.8384E+20	6.9784E+18
Pu-238	1.4108E+01	8.2408E-04	2.0852E+21	2.7607E+15
Pu-239	8.3598E-01	1.3450E-02	3.3889E+22	1.6357E+14
Pu-240	8.4244E-01	3.6971E-03	9.2768E+21	1.6485E+14
Pu-241	5.0218E+02	4.8749E-03	1.2181E+22	9.8269E+16
Am-241	3.5555E-01	1.0359E-04	2.5886E+20	6.9571E+13
Cm-242	6.9837E+01	2.1072E-05	5.2436E+19	1.3668E+16
Cm-244	8.9780E+00	1.1097E-04	2.7389E+20	1.7569E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.9091E+25	0.0000E+00	
Elemental I (atoms)	2.0719E+21	5.4576E+22	
Organic I (atoms)	1.7236E+21	0.0000E+00	
Aerosols (kg)	1.8448E+00	4.9399E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.7782E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.9229E-04
Total I (Ci)			5.9607E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7506E+21
Elemental I (atoms)	0.0000E+00	1.4636E+18
Organic I (atoms)	0.0000E+00	5.9993E+17
Aerosols (kg)	0.0000E+00	1.3355E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7506E+21
Elemental I (atoms)	0.0000E+00	1.4636E+18
Organic I (atoms)	0.0000E+00	5.9993E+17
Aerosols (kg)	0.0000E+00	1.3355E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3680E+21
Elemental I (atoms)	0.0000E+00	7.3059E+17
Organic I (atoms)	0.0000E+00	2.9946E+17
Aerosols (kg)	0.0000E+00	6.6665E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0887E+16
Elemental I (atoms)	0.0000E+00	5.1799E+12
Organic I (atoms)	0.0000E+00	2.1178E+12
Aerosols (kg)	0.0000E+00	4.7281E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3453E+07
Elemental I (atoms)	0.0000E+00	9.7578E+03
Organic I (atoms)	0.0000E+00	2.6227E+03
Aerosols (kg)	0.0000E+00	9.2592E-18

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.2240E-03	3.8495E-11	3.9969E+14	4.5290E+07
Co-60	1.4659E-03	1.2968E-09	1.3016E+16	5.4238E+07
Kr-85	1.6023E+02	4.0840E-04	2.8934E+21	5.9285E+12
Kr-85m	2.0174E+03	2.4515E-07	1.7368E+18	7.4645E+13
Kr-87	2.1175E+03	7.4754E-08	5.1745E+17	7.8346E+13
Kr-88	4.7687E+03	3.8030E-07	2.6025E+18	1.7644E+14
Rb-86	7.4129E-02	9.1104E-10	6.3795E+15	2.7428E+09
Sr-89	1.7384E+00	5.9836E-08	4.0488E+17	6.4320E+10
Sr-90	2.4012E-01	1.7603E-06	1.1779E+19	8.8845E+09

Sr-91	1.9404E+00	5.3528E-10	3.5423E+15	7.1794E+10
Sr-92	1.5901E+00	1.2651E-10	8.2809E+14	5.8834E+10
Y-90	3.8968E-03	7.1624E-12	4.7925E+13	1.4418E+08
Y-91	2.2525E-02	9.1848E-10	6.0783E+15	8.3341E+08
Y-92	1.9510E-01	2.0276E-11	1.3272E+14	7.2187E+09
Y-93	2.4128E-02	7.2320E-12	4.6830E+13	8.9274E+08
Zr-95	2.9516E-02	1.3739E-09	8.7095E+15	1.0921E+09
Zr-97	2.7549E-02	1.4411E-11	8.9469E+13	1.0193E+09
Nb-95	2.9747E-02	7.6074E-10	4.8224E+15	1.1006E+09
Mo-99	4.0254E-01	8.3930E-10	5.1054E+15	1.4894E+10
Tc-99m	3.5847E-01	6.8174E-11	4.1470E+14	1.3264E+10
Ru-103	3.4487E-01	1.0686E-08	6.2476E+16	1.2760E+10
Ru-105	1.9468E-01	2.8961E-11	1.6610E+14	7.2031E+09
Ru-106	1.5138E-01	4.5248E-08	2.5707E+17	5.6011E+09
Rh-105	2.3197E-01	2.7483E-10	1.5763E+15	8.5830E+09
Sb-127	4.7106E-01	1.7639E-09	8.3643E+15	1.7429E+10
Sb-129	1.1087E+00	1.9716E-10	9.2039E+14	4.1021E+10
Te-127	4.7141E-01	1.7862E-10	8.4701E+14	1.7442E+10
Te-127m	6.3756E-02	6.7592E-09	3.2051E+16	2.3590E+09
Te-129	1.2175E+00	5.8136E-11	2.7140E+14	4.5048E+10
Te-129m	2.0676E-01	6.8633E-09	3.2040E+16	7.6501E+09
Te-131m	6.1023E-01	7.6527E-10	3.5180E+15	2.2579E+10
Te-132	6.0792E+00	2.0024E-08	9.1356E+16	2.2493E+11
I-131	5.7091E+01	4.6050E-07	2.1170E+18	2.1124E+12
I-132	6.8582E+01	6.6442E-09	3.0312E+16	2.5376E+12
I-133	1.1227E+02	9.9112E-08	4.4877E+17	4.1542E+12
I-134	4.6464E+01	1.7418E-09	7.8277E+15	1.7192E+12
I-135	9.5120E+01	2.7085E-08	1.2082E+17	3.5194E+12
Xe-133	1.8358E+04	9.8074E-05	4.4407E+20	6.7923E+14
Xe-135	7.5392E+03	2.9522E-06	1.3169E+19	2.7895E+14
Cs-134	9.1799E+00	7.0951E-06	3.1886E+19	3.3966E+11
Cs-136	2.2374E+00	3.0528E-08	1.3518E+17	8.2784E+10
Cs-137	5.8288E+00	6.7011E-05	2.9456E+20	2.1566E+11
Ba-139	1.5053E+00	9.2029E-11	3.9871E+14	5.5696E+10
Ba-140	3.0699E+00	4.1934E-08	1.8038E+17	1.1359E+11
La-140	6.2153E-02	1.1182E-10	4.8100E+14	2.2997E+09
La-141	2.2301E-02	3.9433E-12	1.6842E+13	8.2512E+08
La-142	1.4322E-02	1.0005E-12	4.2429E+12	5.2990E+08
Ce-141	7.2737E-02	2.5528E-09	1.0903E+16	2.6913E+09
Ce-143	6.5858E-02	9.9172E-11	4.1764E+14	2.4368E+09
Ce-144	6.0550E-02	1.8984E-08	7.9393E+16	2.2404E+09
Pr-143	2.6394E-02	3.9195E-10	1.6506E+15	9.7656E+08
Nd-147	1.1578E-02	1.4312E-10	5.8633E+14	4.2840E+08
Np-239	8.4979E-01	3.6630E-09	9.2298E+15	3.1442E+10
Pu-238	3.3725E-04	1.9699E-08	4.9845E+16	1.2478E+07
Pu-239	1.9983E-05	3.2149E-07	8.1006E+17	7.3935E+05
Pu-240	2.0138E-05	8.8378E-08	2.2176E+17	7.4512E+05
Pu-241	1.2004E-02	1.1653E-07	2.9120E+17	4.4416E+08
Am-241	8.4996E-06	2.4765E-09	6.1882E+15	3.1449E+05
Cm-242	1.6696E-03	5.0375E-10	1.2536E+15	6.1775E+07
Cm-244	2.1462E-04	2.6528E-09	6.5473E+15	7.9408E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.3555E+21	4.6605E+17
Elemental I (atoms)	8.6315E+17	1.1988E+14
Organic I (atoms)	2.6440E+17	3.6722E+13
Aerosols (kg)	7.7025E-05	1.0698E-08

Dose Effective (Ci) I-131 (Thyroid)	7.8988E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.8280E+01
Total I (Ci)	3.7953E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9499E+21
Elemental I (atoms)    3.5021E+16  4.7699E+17
Organic I (atoms)      0.0000E+00  1.4896E+17
Aerosols (kg)          4.2307E-04  5.8676E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2042E+21
Elemental I (atoms)    5.7117E+16  3.2443E+17
Organic I (atoms)      0.0000E+00  9.8412E+16
Aerosols (kg)          7.0844E-05  1.7468E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0155E+20
Elemental I (atoms)    1.0958E+16  6.2240E+16
Organic I (atoms)      0.0000E+00  1.7123E+16
Aerosols (kg)          7.1797E-06  8.8466E-07

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7148E+18
Elemental I (atoms)    8.5562E+14  1.1804E+14
Organic I (atoms)      2.8150E+14  1.2319E+13
Aerosols (kg)          7.4572E-08  1.2656E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.9470E+17
Elemental I (atoms)    0.0000E+00  3.8856E+14
Organic I (atoms)      0.0000E+00  7.9625E+13
Aerosols (kg)          0.0000E+00  3.8171E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.9794E+18  0.0000E+00
Elemental I (atoms)    3.9258E+14  0.0000E+00
Organic I (atoms)      5.3797E+13  0.0000E+00
Aerosols (kg)          4.0986E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4214E-01  9.5310E-01  1.8863E-01
Accumulated dose (rem)  8.2736E-01  8.6350E+00  1.2380E+00

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1728E-03  4.1390E-02  8.1913E-03
Accumulated dose (rem)  7.7970E-02  8.4630E-01  1.1815E-01

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2521E-02  1.1674E+00  7.8210E-02
```

Accumulated dose (rem) 8.0297E-02 1.0893E+01 5.5917E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	2.5483E+00	8.0141E-08	8.3210E+17	1.0207E+16
Co-60	3.0526E+00	2.7005E-06	2.7105E+19	1.2223E+16
Kr-85	1.3890E+06	3.5403E+00	2.5082E+25	1.8870E+20
Kr-85m	1.5924E+07	1.9350E-03	1.3709E+22	2.3901E+21
Kr-87	1.3045E+07	4.6053E-04	3.1878E+21	2.5755E+21
Kr-88	3.5617E+07	2.8405E-03	1.9438E+22	5.6753E+21
Rb-86	8.5984E+01	1.0567E-06	7.3998E+18	4.6655E+17
Sr-89	3.6187E+03	1.2456E-04	8.4281E+20	1.4497E+19
Sr-90	5.0004E+02	3.6658E-03	2.4529E+22	2.0022E+18
Sr-91	3.8440E+03	1.0604E-06	7.0176E+18	1.6470E+19
Sr-92	2.7726E+03	2.2058E-07	1.4439E+18	1.4139E+19
Y-90	6.5850E+00	1.2103E-08	8.0987E+16	2.1669E+16
Y-91	4.6640E+01	1.9018E-06	1.2586E+19	1.8611E+17
Y-92	1.9292E+02	2.0049E-08	1.3124E+17	3.2836E+17
Y-93	4.7943E+01	1.4370E-08	9.3052E+16	2.0458E+17
Zr-95	6.1447E+01	2.8603E-06	1.8132E+19	2.4614E+17
Zr-97	5.5787E+01	2.9182E-08	1.8117E+17	2.3201E+17
Nb-95	6.1947E+01	1.5842E-06	1.0042E+19	2.4803E+17
Mo-99	8.3231E+02	1.7354E-06	1.0556E+19	3.3650E+18
Tc-99m	7.4580E+02	1.4184E-07	8.6278E+17	2.9832E+18
Ru-103	7.1781E+02	2.2241E-05	1.3004E+20	2.8761E+18
Ru-105	3.6409E+02	5.4163E-08	3.1065E+17	1.6872E+18
Ru-106	3.1523E+02	9.4222E-05	5.3530E+20	1.2623E+18
Rh-105	4.8183E+02	5.7085E-07	3.2740E+18	1.9347E+18
Sb-127	9.7598E+02	3.6546E-06	1.7330E+19	3.9349E+18
Sb-129	2.0672E+03	3.6761E-07	1.7161E+18	9.6192E+18
Te-127	9.7934E+02	3.7109E-07	1.7596E+18	3.9287E+18
Te-127m	1.3278E+02	1.4076E-05	6.6748E+19	5.3159E+17
Te-129	2.3500E+03	1.1221E-07	5.2384E+17	1.0313E+19
Te-129m	4.3060E+02	1.4294E-05	6.6727E+19	1.7239E+18
Te-131m	1.2509E+03	1.5688E-06	7.2117E+18	5.1168E+18
Te-132	1.2584E+04	4.1449E-05	1.8910E+20	5.0798E+19
I-131	8.0958E+04	6.5302E-04	3.0020E+21	2.3579E+20
I-132	1.0917E+05	1.0576E-05	4.8252E+19	3.3457E+20
I-133	1.5527E+05	1.3707E-04	6.2064E+20	4.6807E+20
I-134	3.2332E+04	1.2120E-06	5.4468E+18	2.5656E+20
I-135	1.2392E+05	3.5285E-05	1.5740E+20	4.0593E+20
Xe-133	1.5898E+08	8.4933E-01	3.8457E+24	2.1646E+22
Xe-135	6.6024E+07	2.5854E-02	1.1533E+23	9.1291E+21
Cs-134	1.0662E+04	8.2406E-03	3.7034E+22	5.7748E+19
Cs-136	2.5937E+03	3.5389E-05	1.5671E+20	1.4084E+19
Cs-137	6.7700E+03	7.7832E-02	3.4213E+23	3.6666E+19
Ba-139	2.1951E+03	1.3420E-07	5.8143E+17	1.4307E+19
Ba-140	6.3831E+03	8.7191E-05	3.7505E+20	2.5611E+19
La-140	9.8353E+01	1.7695E-07	7.6115E+17	2.9880E+17
La-141	4.1120E+01	7.2711E-09	3.1055E+16	1.9427E+17
La-142	2.1718E+01	1.5172E-09	6.4342E+15	1.3413E+17
Ce-141	1.5147E+02	5.3159E-06	2.2704E+19	6.0664E+17
Ce-143	1.3520E+02	2.0359E-07	8.5736E+17	5.5193E+17
Ce-144	1.2608E+02	3.9531E-05	1.6532E+20	5.0489E+17
Pr-143	5.4912E+01	8.1545E-07	3.4341E+18	2.1971E+17
Nd-147	2.4069E+01	2.9752E-07	1.2188E+18	9.6604E+16
Np-239	1.7549E+03	7.5647E-06	1.9061E+19	7.1067E+18
Pu-238	7.0231E-01	4.1023E-05	1.0380E+20	2.8120E+15
Pu-239	4.1617E-02	6.6955E-04	1.6871E+21	1.6661E+14
Pu-240	4.1937E-02	1.8404E-04	4.6181E+20	1.6792E+14
Pu-241	2.4999E+01	2.4268E-04	6.0640E+20	1.0009E+17
Am-241	1.7701E-02	5.1572E-06	1.2887E+19	7.0863E+13
Cm-242	3.4764E+00	1.0489E-06	2.6102E+18	1.3922E+16
Cm-244	4.4693E-01	5.5243E-06	1.3634E+19	1.7895E+15

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.2000    Atmosphere     Sump
Noble gases (atoms)    2.9080E+25  0.0000E+00
Elemental I (atoms)    1.0279E+20  5.6442E+22
Organic I (atoms)      1.7176E+21  0.0000E+00
Aerosols (kg)          9.1835E-02  5.1061E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.1290E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1023E-05
Total I (Ci)                                   5.0165E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0033E+22
Elemental I (atoms)    0.0000E+00  1.4911E+18
Organic I (atoms)      0.0000E+00  6.7584E+17
Aerosols (kg)          0.0000E+00  1.3600E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0033E+22
Elemental I (atoms)    0.0000E+00  1.4911E+18
Organic I (atoms)      0.0000E+00  6.7584E+17
Aerosols (kg)          0.0000E+00  1.3600E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0109E+21
Elemental I (atoms)    0.0000E+00  7.4434E+17
Organic I (atoms)      0.0000E+00  3.3753E+17
Aerosols (kg)          0.0000E+00  6.7890E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.8602E+16
Elemental I (atoms)    0.0000E+00  5.3449E+12
Organic I (atoms)      0.0000E+00  2.5746E+12
Aerosols (kg)          0.0000E+00  4.8750E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.7341E+07
Elemental I (atoms)    0.0000E+00  1.1844E+04
Organic I (atoms)      0.0000E+00  3.5510E+03
Aerosols (kg)          0.0000E+00  1.1197E-17

Environment Integral Nuclide Release:

Time (h) =   2.2000       Ci           kg          Atoms         Bq
Co-58                  1.4152E-03  4.4505E-11  4.6210E+14  5.2362E+07
Co-60                  1.6948E-03  1.4993E-09  1.5049E+16  6.2709E+07
Kr-85                  1.9821E+02  5.0520E-04  3.5793E+21  7.3337E+12
Kr-85m                 2.4562E+03  2.9846E-07  2.1145E+18  9.0878E+13
Kr-87                  2.4838E+03  8.7688E-08  6.0697E+17  9.1901E+13
Kr-88                  5.7542E+03  4.5890E-07  3.1404E+18  2.1291E+14
Rb-86                  8.2133E-02  1.0094E-09  7.0684E+15  3.0389E+09
Sr-89                  2.0098E+00  6.9178E-08  4.6809E+17  7.4362E+10
Sr-90                  2.7763E-01  2.0353E-06  1.3619E+19  1.0272E+10
Sr-91                  2.2297E+00  6.1510E-10  4.0706E+15  8.2500E+10
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Sr-92	1.8008E+00	1.4326E-10	9.3778E+14	6.6628E+10
Y-90	4.6376E-03	8.5241E-12	5.7037E+13	1.7159E+08
Y-91	2.6062E-02	1.0627E-09	7.0327E+15	9.6428E+08
Y-92	2.3615E-01	2.4542E-11	1.6064E+14	8.7375E+09
Y-93	2.7736E-02	8.3135E-12	5.3833E+13	1.0262E+09
Zr-95	3.4125E-02	1.5885E-09	1.0069E+16	1.2626E+09
Zr-97	3.1742E-02	1.6604E-11	1.0308E+14	1.1744E+09
Nb-95	3.4393E-02	8.7955E-10	5.5756E+15	1.2726E+09
Mo-99	4.6500E-01	9.6952E-10	5.8976E+15	1.7205E+10
Tc-99m	4.1441E-01	7.8812E-11	4.7941E+14	1.5333E+10
Ru-103	3.9871E-01	1.2354E-08	7.2230E+16	1.4752E+10
Ru-105	2.2220E-01	3.3056E-11	1.8959E+14	8.2214E+09
Ru-106	1.7502E-01	5.2315E-08	2.9721E+17	6.4759E+09
Rh-105	2.6812E-01	3.1766E-10	1.8219E+15	9.9204E+09
Sb-127	5.4429E-01	2.0381E-09	9.6646E+15	2.0139E+10
Sb-129	1.2650E+00	2.2495E-10	1.0501E+15	4.6804E+10
Te-127	5.4487E-01	2.0646E-10	9.7901E+14	2.0160E+10
Te-127m	7.3715E-02	7.8149E-09	3.7057E+16	2.7274E+09
Te-129	1.3947E+00	6.6597E-11	3.1090E+14	5.1604E+10
Te-129m	2.3906E-01	7.9354E-09	3.7045E+16	8.8450E+09
Te-131m	7.0417E-01	8.8307E-10	4.0595E+15	2.6054E+10
Te-132	7.0235E+00	2.3134E-08	1.0554E+17	2.5987E+11
I-131	6.4204E+01	5.1788E-07	2.3807E+18	2.3755E+12
I-132	7.6494E+01	7.4107E-09	3.3809E+16	2.8303E+12
I-133	1.2594E+02	1.1118E-07	5.0340E+17	4.6598E+12
I-134	4.9422E+01	1.8526E-09	8.3259E+15	1.8286E+12
I-135	1.0607E+02	3.0202E-08	1.3473E+17	3.9244E+12
Xe-133	2.2700E+04	1.2127E-04	5.4911E+20	8.3990E+14
Xe-135	9.2927E+03	3.6389E-06	1.6233E+19	3.4383E+14
Cs-134	1.0172E+01	7.8622E-06	3.5334E+19	3.7638E+11
Cs-136	2.4788E+00	3.3822E-08	1.4977E+17	9.1717E+10
Cs-137	6.4589E+00	7.4256E-05	3.2641E+20	2.3898E+11
Ba-139	1.6742E+00	1.0235E-10	4.4344E+14	6.1945E+10
Ba-140	3.5487E+00	4.8474E-08	2.0851E+17	1.3130E+11
La-140	7.4526E-02	1.3408E-10	5.7675E+14	2.7575E+09
La-141	2.5412E-02	4.4935E-12	1.9192E+13	9.4025E+08
La-142	1.5988E-02	1.1169E-12	4.7365E+12	5.9155E+08
Ce-141	8.4095E-02	2.9514E-09	1.2605E+16	3.1115E+09
Ce-143	7.6009E-02	1.1446E-10	4.8201E+14	2.8123E+09
Ce-144	7.0007E-02	2.1949E-08	9.1792E+16	2.5902E+09
Pr-143	3.0520E-02	4.5323E-10	1.9087E+15	1.1292E+09
Nd-147	1.3384E-02	1.6544E-10	6.7776E+14	4.9520E+08
Np-239	9.8150E-01	4.2307E-09	1.0660E+16	3.6315E+10
Pu-238	3.8992E-04	2.2776E-08	5.7631E+16	1.4427E+07
Pu-239	2.3104E-05	3.7170E-07	9.3659E+17	8.5484E+05
Pu-240	2.3284E-05	1.0218E-07	2.5640E+17	8.6150E+05
Pu-241	1.3879E-02	1.3473E-07	3.3668E+17	5.1354E+08
Am-241	9.8273E-06	2.8633E-09	7.1548E+15	3.6361E+05
Cm-242	1.9303E-03	5.8242E-10	1.4494E+15	7.1422E+07
Cm-244	2.4814E-04	3.0671E-09	7.5699E+15	9.1810E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	4.1505E+21	5.2405E+17
Elemental I (atoms)	9.6654E+17	1.2204E+14
Organic I (atoms)	3.1747E+17	4.0085E+13
Aerosols (kg)	8.5476E-05	1.0792E-08

Dose Effective (Ci) I-131 (Thyroid)	8.8743E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1029E+02
Total I (Ci)	4.2213E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.3740E+21
Elemental I (atoms)    3.8738E+16  5.2761E+17
Organic I (atoms)      0.0000E+00  1.7651E+17
Aerosols (kg)          4.6679E-04  6.4741E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5179E+21
Elemental I (atoms)    6.4716E+16  3.6759E+17
Organic I (atoms)      0.0000E+00  1.1991E+17
Aerosols (kg)          7.9985E-05  1.9722E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5885E+20
Elemental I (atoms)    1.2682E+16  7.2035E+16
Organic I (atoms)      0.0000E+00  2.1238E+16
Aerosols (kg)          8.2822E-06  1.0205E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4308E+18
Elemental I (atoms)    9.4794E+14  1.1897E+14
Organic I (atoms)      3.2889E+14  1.2798E+13
Aerosols (kg)          8.2106E-08  1.2732E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0518E+18
Elemental I (atoms)    0.0000E+00  4.0902E+14
Organic I (atoms)      0.0000E+00  9.0130E+13
Aerosols (kg)          0.0000E+00  3.9841E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.8341E+18  0.0000E+00
Elemental I (atoms)    4.2636E+14  0.0000E+00
Organic I (atoms)      6.5810E+13  0.0000E+00
Aerosols (kg)          4.3972E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.7201E-02  2.3889E-01  4.8796E-02
Accumulated dose (rem)  8.6456E-01  8.8739E+00  1.2868E+00

Low Population Zone Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6155E-03  1.0374E-02  2.1190E-03
Accumulated dose (rem)  7.9585E-02  8.5668E-01  1.2026E-01

Control Room Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4870E-03  2.7199E-01  1.8503E-02
Accumulated dose (rem)  8.5784E-02  1.1165E+01  5.7767E-01
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2500	Ci	kg	Atoms	Decay
Co-58	1.2037E+00	3.7854E-08	3.9304E+17	1.0215E+16
Co-60	1.4419E+00	1.2756E-06	1.2803E+19	1.2232E+16
Kr-85	1.3889E+06	3.5402E+00	2.5082E+25	1.9795E+20
Kr-85m	1.5801E+07	1.9200E-03	1.3603E+22	2.4957E+21
Kr-87	1.2694E+07	4.4814E-04	3.1020E+21	2.6612E+21
Kr-88	3.5184E+07	2.8059E-03	1.9202E+22	5.9111E+21
Rb-86	4.0612E+01	4.9911E-07	3.4950E+18	4.6682E+17
Sr-89	1.7092E+03	5.8834E-05	3.9809E+20	1.4508E+19
Sr-90	2.3620E+02	1.7316E-03	1.1586E+22	2.0037E+18
Sr-91	1.8091E+03	4.9907E-07	3.3027E+18	1.6482E+19
Sr-92	1.2930E+03	1.0287E-07	6.7336E+17	1.4147E+19
Y-90	3.2367E+00	5.9491E-09	3.9807E+16	2.1690E+16
Y-91	2.2049E+01	8.9908E-07	5.9498E+18	1.8626E+17
Y-92	1.0298E+02	1.0702E-08	7.0053E+16	3.2896E+17
Y-93	2.2568E+01	6.7645E-09	4.3803E+16	2.0473E+17
Zr-95	2.9024E+01	1.3510E-06	8.5643E+18	2.4633E+17
Zr-97	2.6297E+01	1.3756E-08	8.5403E+16	2.3218E+17
Nb-95	2.9261E+01	7.4829E-07	4.7435E+18	2.4823E+17
Mo-99	3.9294E+02	8.1927E-07	4.9836E+18	3.3676E+18
Tc-99m	3.5225E+02	6.6990E-08	4.0750E+17	2.9856E+18
Ru-103	3.3905E+02	1.0505E-05	6.1422E+19	2.8783E+18
Ru-105	1.7064E+02	2.5385E-08	1.4559E+17	1.6883E+18
Ru-106	1.4890E+02	4.4506E-05	2.5285E+20	1.2632E+18
Rh-105	2.2754E+02	2.6958E-07	1.5461E+18	1.9362E+18
Sb-127	4.6083E+02	1.7256E-06	8.1827E+18	3.9380E+18
Sb-129	9.6865E+02	1.7225E-07	8.0413E+17	9.6256E+18
Te-127	4.6251E+02	1.7525E-07	8.3103E+17	3.9318E+18
Te-127m	6.2718E+01	6.6491E-06	3.1529E+19	5.3201E+17
Te-129	1.1037E+03	5.2700E-08	2.4602E+17	1.0321E+19
Te-129m	2.0340E+02	6.7517E-06	3.1519E+19	1.7252E+18
Te-131m	5.9021E+02	7.4016E-07	3.4025E+18	5.1207E+18
Te-132	5.9413E+03	1.9570E-05	8.9283E+19	5.0838E+19
I-131	5.7367E+04	4.6273E-04	2.1272E+21	2.3617E+20
I-132	7.6306E+04	7.3924E-06	3.3726E+19	3.3508E+20
I-133	1.0986E+05	9.6984E-05	4.3914E+20	4.6880E+20
I-134	2.2026E+04	8.2568E-07	3.7107E+18	2.5671E+20
I-135	8.7365E+04	2.4877E-05	1.1097E+20	4.0652E+20
Xe-133	1.5893E+08	8.4908E-01	3.8446E+24	2.2705E+22
Xe-135	6.5771E+07	2.5755E-02	1.1489E+23	9.5679E+21
Cs-134	5.0362E+03	3.8925E-03	1.7493E+22	5.7781E+19
Cs-136	1.2250E+03	1.6714E-05	7.4012E+19	1.4093E+19
Cs-137	3.1978E+03	3.6764E-02	1.6161E+23	3.6688E+19
Ba-139	1.0111E+03	6.1817E-08	2.6782E+17	1.4314E+19
Ba-140	3.0148E+03	4.1180E-05	1.7714E+20	2.5632E+19
La-140	4.9012E+01	8.8178E-08	3.7930E+17	2.9911E+17
La-141	1.9253E+01	3.4044E-09	1.4540E+16	1.9440E+17
La-142	1.0031E+01	7.0071E-10	2.9717E+15	1.3420E+17
Ce-141	7.1545E+01	2.5109E-06	1.0724E+19	6.0712E+17
Ce-143	6.3795E+01	9.6064E-08	4.0455E+17	5.5236E+17
Ce-144	5.9556E+01	1.8673E-05	7.8090E+19	5.0528E+17
Pr-143	2.5942E+01	3.8524E-07	1.6224E+18	2.1988E+17
Nd-147	1.1367E+01	1.4051E-07	5.7564E+17	9.6680E+16
Np-239	8.2845E+02	3.5710E-06	8.9980E+18	7.1122E+18
Pu-238	3.3174E-01	1.9378E-05	4.9031E+19	2.8142E+15
Pu-239	1.9658E-02	3.1626E-04	7.9690E+20	1.6674E+14
Pu-240	1.9809E-02	8.6934E-05	2.1814E+20	1.6805E+14
Pu-241	1.1808E+01	1.1463E-04	2.8644E+20	1.0017E+17
Am-241	8.3610E-03	2.4361E-06	6.0873E+18	7.0919E+13
Cm-242	1.6421E+00	4.9545E-07	1.2329E+18	1.3933E+16
Cm-244	2.1111E-01	2.6094E-06	6.4403E+18	1.7909E+15

Sprayed Drywell Transport Group Inventory:
Time (h) = 2.2500 Atmosphere Sump

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Noble gases (atoms)    2.9077E+25  0.0000E+00
Elemental I (atoms)    4.8510E+19  5.6495E+22
Organic I (atoms)      1.7160E+21  0.0000E+00
Aerosols (kg)          4.3378E-02  5.1109E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.9241E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6106E-05
Total I (Ci)                                   3.5293E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0353E+22
Elemental I (atoms)    0.0000E+00  1.4918E+18
Organic I (atoms)      0.0000E+00  6.9477E+17
Aerosols (kg)          0.0000E+00  1.3607E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0353E+22
Elemental I (atoms)    0.0000E+00  1.4918E+18
Organic I (atoms)      0.0000E+00  6.9477E+17
Aerosols (kg)          0.0000E+00  1.3607E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1716E+21
Elemental I (atoms)    0.0000E+00  7.4473E+17
Organic I (atoms)      0.0000E+00  3.4702E+17
Aerosols (kg)          0.0000E+00  6.7925E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0531E+16
Elemental I (atoms)    0.0000E+00  5.3497E+12
Organic I (atoms)      0.0000E+00  2.6885E+12
Aerosols (kg)          0.0000E+00  4.8793E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1295E+07
Elemental I (atoms)    0.0000E+00  1.2369E+04
Organic I (atoms)      0.0000E+00  3.8110E+03
Aerosols (kg)          0.0000E+00  1.1686E-17

Environment Integral Nuclide Release:

Time (h) =   2.2500       Ci           kg          Atoms          Bq
Co-58                  1.4626E-03  4.5996E-11  4.7758E+14  5.4115E+07
Co-60                  1.7516E-03  1.5496E-09  1.5553E+16  6.4810E+07
Kr-85                  2.0852E+02  5.3148E-04  3.7655E+21  7.7152E+12
Kr-85m                 2.5734E+03  3.1271E-07  2.2155E+18  9.5217E+13
Kr-87                  2.5780E+03  9.1014E-08  6.3000E+17  9.5387E+13
Kr-88                  6.0154E+03  4.7972E-07  3.2829E+18  2.2257E+14
Rb-86                  8.4107E-02  1.0337E-09  7.2383E+15  3.1120E+09
Sr-89                  2.0771E+00  7.1495E-08  4.8377E+17  7.6852E+10
Sr-90                  2.8693E-01  2.1035E-06  1.4075E+19  1.0616E+10
Sr-91                  2.3010E+00  6.3475E-10  4.2006E+15  8.5136E+10
Sr-92                  1.8517E+00  1.4732E-10  9.6430E+14  6.8512E+10
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Y-90	4.8301E-03	8.8778E-12	5.9404E+13	1.7871E+08
Y-91	2.6940E-02	1.0985E-09	7.2697E+15	9.9678E+08
Y-92	2.4702E-01	2.5671E-11	1.6804E+14	9.1396E+09
Y-93	2.8625E-02	8.5798E-12	5.5558E+13	1.0591E+09
Zr-95	3.5268E-02	1.6417E-09	1.0407E+16	1.3049E+09
Zr-97	3.2777E-02	1.7146E-11	1.0645E+14	1.2128E+09
Nb-95	3.5545E-02	9.0902E-10	5.7624E+15	1.3152E+09
Mo-99	4.8047E-01	1.0018E-09	6.0938E+15	1.7777E+10
Tc-99m	4.2828E-01	8.1450E-11	4.9546E+14	1.5847E+10
Ru-103	4.1206E-01	1.2767E-08	7.4648E+16	1.5246E+10
Ru-105	2.2892E-01	3.4055E-11	1.9532E+14	8.4700E+09
Ru-106	1.8089E-01	5.4067E-08	3.0717E+17	6.6928E+09
Rh-105	2.7708E-01	3.2827E-10	1.8828E+15	1.0252E+10
Sb-127	5.6244E-01	2.1061E-09	9.9868E+15	2.0810E+10
Sb-129	1.3031E+00	2.3173E-10	1.0818E+15	4.8216E+10
Te-127	5.6309E-01	2.1336E-10	1.0117E+15	2.0834E+10
Te-127m	7.6184E-02	8.0767E-09	3.8299E+16	2.8188E+09
Te-129	1.4382E+00	6.8673E-11	3.2059E+14	5.3212E+10
Te-129m	2.4706E-01	8.2012E-09	3.8286E+16	9.1414E+09
Te-131m	7.2741E-01	9.1222E-10	4.1935E+15	2.6914E+10
Te-132	7.2574E+00	2.3905E-08	1.0906E+17	2.6852E+11
I-131	6.5991E+01	5.3229E-07	2.4470E+18	2.4416E+12
I-132	7.8446E+01	7.5997E-09	3.4672E+16	2.9025E+12
I-133	1.2936E+02	1.1420E-07	5.1708E+17	4.7865E+12
I-134	5.0108E+01	1.8783E-09	8.4415E+15	1.8540E+12
I-135	1.0879E+02	3.0977E-08	1.3818E+17	4.0251E+12
Xe-133	2.3878E+04	1.2757E-04	5.7761E+20	8.8349E+14
Xe-135	9.7666E+03	3.8244E-06	1.7060E+19	3.6136E+14
Cs-134	1.0417E+01	8.0514E-06	3.6184E+19	3.8543E+11
Cs-136	2.5384E+00	3.4634E-08	1.5336E+17	9.3920E+10
Cs-137	6.6143E+00	7.6043E-05	3.3426E+20	2.4473E+11
Ba-139	1.7140E+00	1.0479E-10	4.5399E+14	6.3418E+10
Ba-140	3.6674E+00	5.0096E-08	2.1549E+17	1.3570E+11
La-140	7.7770E-02	1.3992E-10	6.0186E+14	2.8775E+09
La-141	2.6170E-02	4.6275E-12	1.9764E+13	9.6830E+08
La-142	1.6383E-02	1.1445E-12	4.8536E+12	6.0617E+08
Ce-141	8.6912E-02	3.0502E-09	1.3028E+16	3.2157E+09
Ce-143	7.8521E-02	1.1824E-10	4.9794E+14	2.9053E+09
Ce-144	7.2352E-02	2.2684E-08	9.4867E+16	2.6770E+09
Pr-143	3.1544E-02	4.6844E-10	1.9727E+15	1.1671E+09
Nd-147	1.3831E-02	1.7097E-10	7.0042E+14	5.1177E+08
Np-239	1.0141E+00	4.3714E-09	1.1015E+16	3.7522E+10
Pu-238	4.0298E-04	2.3539E-08	5.9561E+16	1.4910E+07
Pu-239	2.3878E-05	3.8416E-07	9.6797E+17	8.8348E+05
Pu-240	2.4064E-05	1.0560E-07	2.6499E+17	8.9036E+05
Pu-241	1.4344E-02	1.3925E-07	3.4796E+17	5.3074E+08
Am-241	1.0157E-05	2.9592E-09	7.3946E+15	3.7579E+05
Cm-242	1.9950E-03	6.0193E-10	1.4979E+15	7.3814E+07
Cm-244	2.5645E-04	3.1699E-09	7.8235E+15	9.4886E+06

Environment Transport Group Inventory:

Time (h) = 2.2500	Total Release	Release Rate/s
Noble gases (atoms)	4.3663E+21	5.3904E+17
Elemental I (atoms)	9.9236E+17	1.2251E+14
Organic I (atoms)	3.3170E+17	4.0950E+13
Aerosols (kg)	8.7561E-05	1.0810E-08

Dose Effective (Ci) I-131 (Thyroid)	9.1190E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1330E+02
Total I (Ci)	4.3270E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4877E+21

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Elemental I (atoms)    3.9640E+16  5.3989E+17
Organic I (atoms)      0.0000E+00  1.8382E+17
Aerosols (kg)          4.7742E-04  6.6215E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6040E+21
Elemental I (atoms)    6.6656E+16  3.7861E+17
Organic I (atoms)      0.0000E+00  1.2571E+17
Aerosols (kg)          8.2319E-05  2.0298E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7480E+20
Elemental I (atoms)    1.3132E+16  7.4589E+16
Organic I (atoms)      0.0000E+00  2.2364E+16
Aerosols (kg)          8.5697E-06  1.0559E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6251E+18
Elemental I (atoms)    9.7098E+14  1.1920E+14
Organic I (atoms)      3.4158E+14  1.2926E+13
Aerosols (kg)          8.3964E-08  1.2751E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0944E+18
Elemental I (atoms)    0.0000E+00  4.1413E+14
Organic I (atoms)      0.0000E+00  9.2943E+13
Aerosols (kg)          0.0000E+00  4.0253E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    3.0500E+18  0.0000E+00
Elemental I (atoms)    4.3421E+14  0.0000E+00
Organic I (atoms)      6.8774E+13  0.0000E+00
Aerosols (kg)          4.4660E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.7907E-02  2.3859E-01  4.9463E-02
Accumulated dose (rem)  9.0246E-01  9.1125E+00  1.3363E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6462E-03  1.0361E-02  2.1480E-03
Accumulated dose (rem)  8.1232E-02  8.6704E-01  1.2241E-01

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4709E-03  2.6538E-01  1.8181E-02
Accumulated dose (rem)  9.1255E-02  1.1430E+01  5.9585E-01
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	5.6855E-01	1.7880E-08	1.8565E+17	1.0219E+16
Co-60	6.8109E-01	6.0253E-07	6.0476E+18	1.2237E+16
Kr-85	1.3889E+06	3.5401E+00	2.5081E+25	2.0720E+20
Kr-85m	1.5679E+07	1.9052E-03	1.3498E+22	2.6005E+21
Kr-87	1.2352E+07	4.3608E-04	3.0185E+21	2.7446E+21
Kr-88	3.4757E+07	2.7718E-03	1.8969E+22	6.1440E+21
Rb-86	1.9182E+01	2.3574E-07	1.6508E+18	4.6694E+17
Sr-89	8.0734E+02	2.7789E-05	1.8804E+20	1.4514E+19
Sr-90	1.1157E+02	8.1791E-04	5.4728E+21	2.0045E+18
Sr-91	8.5144E+02	2.3488E-07	1.5544E+18	1.6488E+19
Sr-92	6.0299E+02	4.7973E-08	3.1402E+17	1.4152E+19
Y-90	1.5884E+00	2.9196E-09	1.9536E+16	2.1700E+16
Y-91	1.0423E+01	4.2503E-07	2.8127E+18	1.8633E+17
Y-92	5.4109E+01	5.6233E-09	3.6809E+16	3.2928E+17
Y-93	1.0624E+01	3.1843E-09	2.0619E+16	2.0480E+17
Zr-95	1.3709E+01	6.3815E-07	4.0453E+18	2.4642E+17
Zr-97	1.2396E+01	6.4844E-09	4.0258E+16	2.3227E+17
Nb-95	1.3821E+01	3.5346E-07	2.2406E+18	2.4832E+17
Mo-99	1.8551E+02	3.8678E-07	2.3528E+18	3.3688E+18
Tc-99m	1.6637E+02	3.1640E-08	1.9247E+17	2.9867E+18
Ru-103	1.6014E+02	4.9621E-06	2.9012E+19	2.8794E+18
Ru-105	7.9976E+01	1.1898E-08	6.8237E+16	1.6889E+18
Ru-106	7.0332E+01	2.1022E-05	1.1943E+20	1.2637E+18
Rh-105	1.0745E+02	1.2730E-07	7.3014E+17	1.9369E+18
Sb-127	2.1759E+02	8.1480E-07	3.8637E+18	3.9394E+18
Sb-129	4.5389E+02	8.0714E-08	3.7680E+17	9.6287E+18
Te-127	2.1843E+02	8.2767E-08	3.9247E+17	3.9333E+18
Te-127m	2.9625E+01	3.1407E-06	1.4893E+19	5.3221E+17
Te-129	5.1832E+02	2.4750E-08	1.1554E+17	1.0324E+19
Te-129m	9.6075E+01	3.1892E-06	1.4888E+19	1.7259E+18
Te-131m	2.7846E+02	3.4921E-07	1.6053E+18	5.1226E+18
Te-132	2.8051E+03	9.2398E-06	4.2154E+19	5.0857E+19
I-131	4.6222E+04	3.7284E-04	1.7140E+21	2.3648E+20
I-132	6.0615E+04	5.8723E-06	2.6791E+19	3.3549E+20
I-133	8.8389E+04	7.8027E-05	3.5330E+20	4.6939E+20
I-134	1.7062E+04	6.3960E-07	2.8744E+18	2.5682E+20
I-135	7.0037E+04	1.9943E-05	8.8962E+19	4.0698E+20
Xe-133	1.5888E+08	8.4882E-01	3.8434E+24	2.3763E+22
Xe-135	6.5519E+07	2.5656E-02	1.1445E+23	1.0005E+22
Cs-134	2.3789E+03	1.8386E-03	8.2630E+21	5.7797E+19
Cs-136	5.7858E+02	7.8942E-06	3.4956E+19	1.4096E+19
Cs-137	1.5105E+03	1.7366E-02	7.6335E+22	3.6698E+19
Ba-139	4.6575E+02	2.8474E-08	1.2336E+17	1.4317E+19
Ba-140	1.4239E+03	1.9449E-05	8.3662E+19	2.5641E+19
La-140	2.4356E+01	4.3820E-08	1.8849E+17	2.9927E+17
La-141	9.0143E+00	1.5939E-09	6.8077E+15	1.9446E+17
La-142	4.6327E+00	3.2362E-10	1.3725E+15	1.3423E+17
Ce-141	3.3793E+01	1.1860E-06	5.0654E+18	6.0734E+17
Ce-143	3.0102E+01	4.5329E-08	1.9089E+17	5.5256E+17
Ce-144	2.8131E+01	8.8200E-06	3.6886E+19	5.0547E+17
Pr-143	1.2256E+01	1.8200E-07	7.6645E+17	2.1996E+17
Nd-147	5.3687E+00	6.6364E-08	2.7187E+17	9.6716E+16
Np-239	3.9108E+02	1.6858E-06	4.2476E+18	7.1149E+18
Pu-238	1.5670E-01	9.1531E-06	2.3160E+19	2.8153E+15
Pu-239	9.2855E-03	1.4939E-04	3.7642E+20	1.6680E+14
Pu-240	9.3570E-03	4.1063E-05	1.0304E+20	1.6811E+14
Pu-241	5.5776E+00	5.4145E-05	1.3530E+20	1.0021E+17
Am-241	3.9494E-03	1.1507E-06	2.8754E+18	7.0945E+13
Cm-242	7.7564E-01	2.3403E-07	5.8237E+17	1.3938E+16
Cm-244	9.9717E-02	1.2326E-06	3.0421E+18	1.7916E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	2.9074E+25	0.0000E+00

```
Elemental I (atoms)    2.2894E+19  5.6521E+22
Organic I (atoms)      1.7145E+21  0.0000E+00
Aerosols (kg)          2.0490E-02  5.1132E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.3546E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.9051E-05
Total I (Ci)                                   2.8233E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0674E+22
Elemental I (atoms)    0.0000E+00  1.4922E+18
Organic I (atoms)      0.0000E+00  7.1369E+17
Aerosols (kg)          0.0000E+00  1.3610E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0674E+22
Elemental I (atoms)    0.0000E+00  1.4922E+18
Organic I (atoms)      0.0000E+00  7.1369E+17
Aerosols (kg)          0.0000E+00  1.3610E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.3323E+21
Elemental I (atoms)    0.0000E+00  7.4492E+17
Organic I (atoms)      0.0000E+00  3.5650E+17
Aerosols (kg)          0.0000E+00  6.7942E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.2459E+16
Elemental I (atoms)    0.0000E+00  5.3519E+12
Organic I (atoms)      0.0000E+00  2.8023E+12
Aerosols (kg)          0.0000E+00  4.8813E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5441E+07
Elemental I (atoms)    0.0000E+00  1.2894E+04
Organic I (atoms)      0.0000E+00  4.0822E+03
Aerosols (kg)          0.0000E+00  1.2175E-17
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.5097E-03  4.7476E-11  4.9295E+14  5.5857E+07
Co-60                  1.8080E-03  1.5995E-09  1.6054E+16  6.6897E+07
Kr-85                  2.1915E+02  5.5858E-04  3.9575E+21  8.1086E+12
Kr-85m                 2.6935E+03  3.2729E-07  2.3188E+18  9.9659E+13
Kr-87                  2.6726E+03  9.4352E-08  6.5311E+17  9.8886E+13
Kr-88                  6.2815E+03  5.0094E-07  3.4281E+18  2.3241E+14
Rb-86                  8.6065E-02  1.0577E-09  7.4067E+15  3.1844E+09
Sr-89                  2.1439E+00  7.3796E-08  4.9934E+17  7.9326E+10
Sr-90                  2.9616E-01  2.1712E-06  1.4528E+19  1.0958E+10
Sr-91                  2.3715E+00  6.5420E-10  4.3293E+15  8.7744E+10
Sr-92                  1.9016E+00  1.5129E-10  9.9030E+14  7.0359E+10
Y-90                   5.0258E-03  9.2376E-12  6.1811E+13  1.8596E+08
```

Y-91	2.7813E-02	1.1341E-09	7.5054E+15	1.0291E+09
Y-92	2.5817E-01	2.6830E-11	1.7563E+14	9.5524E+09
Y-93	2.9505E-02	8.8435E-12	5.7265E+13	1.0917E+09
Zr-95	3.6403E-02	1.6945E-09	1.0742E+16	1.3469E+09
Zr-97	3.3804E-02	1.7683E-11	1.0978E+14	1.2507E+09
Nb-95	3.6690E-02	9.3829E-10	5.9479E+15	1.3575E+09
Mo-99	4.9583E-01	1.0338E-09	6.2886E+15	1.8346E+10
Tc-99m	4.4206E-01	8.4070E-11	5.1139E+14	1.6356E+10
Ru-103	4.2532E-01	1.3178E-08	7.7050E+16	1.5737E+10
Ru-105	2.3554E-01	3.5040E-11	2.0097E+14	8.7150E+09
Ru-106	1.8671E-01	5.5808E-08	3.1706E+17	6.9083E+09
Rh-105	2.8598E-01	3.3881E-10	1.9432E+15	1.0581E+10
Sb-127	5.8045E-01	2.1736E-09	1.0307E+16	2.1477E+10
Sb-129	1.3407E+00	2.3842E-10	1.1130E+15	4.9606E+10
Te-127	5.8117E-01	2.2022E-10	1.0442E+15	2.1503E+10
Te-127m	7.8637E-02	8.3368E-09	3.9532E+16	2.9096E+09
Te-129	1.4811E+00	7.0722E-11	3.3015E+14	5.4800E+10
Te-129m	2.5502E-01	8.4653E-09	3.9519E+16	9.4357E+09
Te-131m	7.5046E-01	9.4113E-10	4.3264E+15	2.7767E+10
Te-132	7.4897E+00	2.4670E-08	1.1255E+17	2.7712E+11
I-131	6.7776E+01	5.4670E-07	2.5132E+18	2.5077E+12
I-132	8.0376E+01	7.7867E-09	3.5525E+16	2.9739E+12
I-133	1.3278E+02	1.1721E-07	5.3073E+17	4.9129E+12
I-134	5.0767E+01	1.9031E-09	8.5526E+15	1.8784E+12
I-135	1.1149E+02	3.1748E-08	1.4162E+17	4.1253E+12
Xe-133	2.5093E+04	1.3406E-04	6.0700E+20	9.2844E+14
Xe-135	1.0254E+04	4.0153E-06	1.7912E+19	3.7940E+14
Cs-134	1.0660E+01	8.2390E-06	3.7027E+19	3.9442E+11
Cs-136	2.5974E+00	3.5440E-08	1.5693E+17	9.6105E+10
Cs-137	6.7685E+00	7.7815E-05	3.4205E+20	2.5043E+11
Ba-139	1.7526E+00	1.0715E-10	4.6420E+14	6.4845E+10
Ba-140	3.7853E+00	5.1706E-08	2.2241E+17	1.4006E+11
La-140	8.1085E-02	1.4588E-10	6.2751E+14	3.0001E+09
La-141	2.6917E-02	4.7595E-12	2.0328E+13	9.9592E+08
La-142	1.6767E-02	1.1713E-12	4.9672E+12	6.2036E+08
Ce-141	8.9709E-02	3.1484E-09	1.3447E+16	3.3192E+09
Ce-143	8.1013E-02	1.2199E-10	5.1375E+14	2.9975E+09
Ce-144	7.4681E-02	2.3415E-08	9.7921E+16	2.7632E+09
Pr-143	3.2561E-02	4.8354E-10	2.0363E+15	1.2047E+09
Nd-147	1.4276E-02	1.7647E-10	7.2294E+14	5.2821E+08
Np-239	1.0465E+00	4.5109E-09	1.1366E+16	3.8721E+10
Pu-238	4.1596E-04	2.4297E-08	6.1479E+16	1.5390E+07
Pu-239	2.4647E-05	3.9653E-07	9.9914E+17	9.1193E+05
Pu-240	2.4839E-05	1.0901E-07	2.7352E+17	9.1903E+05
Pu-241	1.4806E-02	1.4373E-07	3.5916E+17	5.4783E+08
Am-241	1.0484E-05	3.0545E-09	7.6327E+15	3.8789E+05
Cm-242	2.0592E-03	6.2131E-10	1.5461E+15	7.6191E+07
Cm-244	2.6471E-04	3.2719E-09	8.0754E+15	9.7941E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	4.5888E+21	5.5420E+17
Elemental I (atoms)	1.0181E+18	1.2296E+14
Organic I (atoms)	3.4630E+17	4.1823E+13
Aerosols (kg)	8.9629E-05	1.0825E-08

Dose Effective (Ci) I-131 (Thyroid)	9.3636E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1631E+02
Total I (Ci)	4.4319E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6045E+21
Elemental I (atoms)	4.0528E+16	5.5198E+17

```
Organic I (atoms)      0.0000E+00  1.9129E+17
Aerosols (kg)          4.8790E-04  6.7668E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6931E+21
Elemental I (atoms)    6.8606E+16  3.8969E+17
Organic I (atoms)      0.0000E+00  1.3168E+17
Aerosols (kg)          8.4666E-05  2.0876E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9142E+20
Elemental I (atoms)    1.3588E+16  7.7181E+16
Organic I (atoms)      0.0000E+00  2.3530E+16
Aerosols (kg)          8.8614E-06  1.0919E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.8255E+18
Elemental I (atoms)    9.9395E+14  1.1943E+14
Organic I (atoms)      3.5461E+14  1.3057E+13
Aerosols (kg)          8.5808E-08  1.2770E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1384E+18
Elemental I (atoms)    0.0000E+00  4.1922E+14
Organic I (atoms)      0.0000E+00  9.5831E+13
Aerosols (kg)          0.0000E+00  4.0662E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    3.2679E+18  0.0000E+00
Elemental I (atoms)    4.4186E+14  0.0000E+00
Organic I (atoms)      7.1737E+13  0.0000E+00
Aerosols (kg)          4.5328E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.8592E-02  2.3817E-01  5.0100E-02
Accumulated dose (rem)  9.4106E-01  9.3506E+00  1.3864E+00

Low Population Zone Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6759E-03  1.0343E-02  2.1757E-03
Accumulated dose (rem)  8.2907E-02  8.7738E-01  1.2459E-01

Control Room Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4653E-03  2.5926E-01  1.7892E-02
Accumulated dose (rem)  9.6720E-02  1.1690E+01  6.1374E-01

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 2.3500	Ci	kg	Atoms	Decay
Co-58	2.6855E-01	8.4456E-09	8.7690E+16	1.0221E+16
Co-60	3.2172E-01	2.8461E-07	2.8566E+18	1.2239E+16
Kr-85	1.3889E+06	3.5400E+00	2.5080E+25	2.1645E+20
Kr-85m	1.5558E+07	1.8905E-03	1.3394E+22	2.7046E+21
Kr-87	1.2020E+07	4.2434E-04	2.9373E+21	2.8257E+21
Kr-88	3.4334E+07	2.7381E-03	1.8738E+22	6.3741E+21
Rb-86	9.0598E+00	1.1134E-07	7.7968E+17	4.6700E+17
Sr-89	3.8134E+02	1.3126E-05	8.8817E+19	1.4516E+19
Sr-90	5.2700E+01	3.8634E-04	2.5851E+21	2.0048E+18
Sr-91	4.0072E+02	1.1054E-07	7.3154E+17	1.6490E+19
Sr-92	2.8120E+02	2.2372E-08	1.4644E+17	1.4153E+19
Y-90	7.7844E-01	1.4308E-09	9.5738E+15	2.1705E+16
Y-91	4.9276E+00	2.0093E-07	1.3297E+18	1.8636E+17
Y-92	2.8080E+01	2.9183E-09	1.9102E+16	3.2945E+17
Y-93	5.0010E+00	1.4989E-09	9.7063E+15	2.0484E+17
Zr-95	6.4755E+00	3.0143E-07	1.9108E+18	2.4646E+17
Zr-97	5.8433E+00	3.0567E-09	1.8977E+16	2.3230E+17
Nb-95	6.5286E+00	1.6696E-07	1.0584E+18	2.4836E+17
Mo-99	8.7579E+01	1.8260E-07	1.1108E+18	3.3694E+18
Tc-99m	7.8579E+01	1.4944E-08	9.0904E+16	2.9872E+18
Ru-103	7.5642E+01	2.3438E-06	1.3703E+19	2.8799E+18
Ru-105	3.7483E+01	5.5762E-09	3.1981E+16	1.6891E+18
Ru-106	3.3222E+01	9.9300E-06	5.6415E+19	1.2639E+18
Rh-105	5.0743E+01	6.0118E-08	3.4480E+17	1.9373E+18
Sb-127	1.0274E+02	3.8473E-07	1.8243E+18	3.9401E+18
Sb-129	2.1268E+02	3.7821E-08	1.7656E+17	9.6301E+18
Te-127	1.0316E+02	3.9088E-08	1.8535E+17	3.9340E+18
Te-127m	1.3994E+01	1.4835E-06	7.0347E+18	5.3230E+17
Te-129	2.4342E+02	1.1623E-08	5.4261E+16	1.0326E+19
Te-129m	4.5381E+01	1.5064E-06	7.0325E+18	1.7262E+18
Te-131m	1.3138E+02	1.6476E-07	7.5741E+17	5.1234E+18
Te-132	1.3244E+03	4.3625E-06	1.9903E+19	5.0865E+19
I-131	4.0955E+04	3.3035E-04	1.5186E+21	2.3675E+20
I-132	5.2934E+04	5.1282E-06	2.3396E+19	3.3584E+20
I-133	7.8200E+04	6.9032E-05	3.1257E+20	4.6991E+20
I-134	1.4535E+04	5.4484E-07	2.4486E+18	2.5692E+20
I-135	6.1742E+04	1.7581E-05	7.8426E+19	4.0740E+20
Xe-133	1.5884E+08	8.4856E-01	3.8422E+24	2.4821E+22
Xe-135	6.5268E+07	2.5558E-02	1.1401E+23	1.0441E+22
Cs-134	1.1237E+03	8.6848E-04	3.9030E+21	5.7804E+19
Cs-136	2.7326E+02	3.7285E-06	1.6510E+19	1.4098E+19
Cs-137	7.1349E+02	8.2028E-03	3.6057E+22	3.6702E+19
Ba-139	2.1454E+02	1.3116E-08	5.6824E+16	1.4319E+19
Ba-140	6.7249E+02	9.1860E-06	3.9514E+19	2.5645E+19
La-140	1.2074E+01	2.1722E-08	9.3438E+16	2.9934E+17
La-141	4.2206E+00	7.4629E-10	3.1874E+15	1.9449E+17
La-142	2.1396E+00	1.4947E-10	6.3388E+14	1.3424E+17
Ce-141	1.5962E+01	5.6019E-07	2.3926E+18	6.0745E+17
Ce-143	1.4204E+01	2.1389E-08	9.0074E+16	5.5266E+17
Ce-144	1.3288E+01	4.1661E-06	1.7423E+19	5.0556E+17
Pr-143	5.7899E+00	8.5981E-08	3.6209E+17	2.2000E+17
Nd-147	2.5356E+00	3.1343E-08	1.2840E+17	9.6732E+16
Np-239	1.8461E+02	7.9578E-07	2.0052E+18	7.1161E+18
Pu-238	7.4017E-02	4.3235E-06	1.0940E+19	2.8158E+15
Pu-239	4.3861E-03	7.0565E-05	1.7780E+20	1.6683E+14
Pu-240	4.4198E-03	1.9396E-05	4.8670E+19	1.6814E+14
Pu-241	2.6346E+00	2.5576E-05	6.3909E+19	1.0023E+17
Am-241	1.8655E-03	5.4355E-07	1.3582E+18	7.0958E+13
Cm-242	3.6637E-01	1.1054E-07	2.7508E+17	1.3940E+16
Cm-244	4.7102E-02	5.8221E-07	1.4369E+18	1.7919E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3500	Atmosphere	Sump
Noble gases (atoms)	2.9072E+25	0.0000E+00
Elemental I (atoms)	1.0805E+19	5.6533E+22

```
Organic I (atoms)      1.7130E+21  0.0000E+00
Aerosols (kg)          9.6784E-03  5.1143E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.0850E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.5705E-05
Total I (Ci)                                   2.4837E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0994E+22
Elemental I (atoms)    0.0000E+00  1.4924E+18
Organic I (atoms)      0.0000E+00  7.3258E+17
Aerosols (kg)          0.0000E+00  1.3612E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0994E+22
Elemental I (atoms)    0.0000E+00  1.4924E+18
Organic I (atoms)      0.0000E+00  7.3258E+17
Aerosols (kg)          0.0000E+00  1.3612E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.4930E+21
Elemental I (atoms)    0.0000E+00  7.4501E+17
Organic I (atoms)      0.0000E+00  3.6598E+17
Aerosols (kg)          0.0000E+00  6.7950E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4387E+16
Elemental I (atoms)    0.0000E+00  5.3530E+12
Organic I (atoms)      0.0000E+00  2.9160E+12
Aerosols (kg)          0.0000E+00  4.8822E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.9779E+07
Elemental I (atoms)    0.0000E+00  1.3419E+04
Organic I (atoms)      0.0000E+00  4.3645E+03
Aerosols (kg)          0.0000E+00  1.2665E-17

Environment Integral Nuclide Release:

Time (h) =   2.3500       Ci           kg         Atoms         Bq
Co-58                  1.5564E-03  4.8946E-11  5.0820E+14  5.7586E+07
Co-60                  1.8640E-03  1.6490E-09  1.6551E+16  6.8968E+07
Kr-85                  2.3011E+02  5.8651E-04  4.1554E+21  8.5140E+12
Kr-85m                 2.8162E+03  3.4221E-07  2.4245E+18  1.0420E+14
Kr-87                  2.7674E+03  9.7700E-08  6.7628E+17  1.0239E+14
Kr-88                  6.5524E+03  5.2255E-07  3.5760E+18  2.4244E+14
Rb-86                  8.8005E-02  1.0816E-09  7.5737E+15  3.2562E+09
Sr-89                  2.2103E+00  7.6080E-08  5.1479E+17  8.1781E+10
Sr-90                  3.0533E-01  2.2384E-06  1.4978E+19  1.1297E+10
Sr-91                  2.4412E+00  6.7343E-10  4.4566E+15  9.0324E+10
Sr-92                  1.9505E+00  1.5518E-10  1.0158E+15  7.2169E+10
Y-90                   5.2248E-03  9.6032E-12  6.4258E+13  1.9332E+08
Y-91                   2.8680E-02  1.1695E-09  7.7394E+15  1.0612E+09
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Y-92	2.6959E-01	2.8018E-11	1.8340E+14	9.9750E+09
Y-93	3.0375E-02	9.1043E-12	5.8954E+13	1.1239E+09
Zr-95	3.7530E-02	1.7469E-09	1.1074E+16	1.3886E+09
Zr-97	3.4820E-02	1.8215E-11	1.1308E+14	1.2883E+09
Nb-95	3.7826E-02	9.6733E-10	6.1320E+15	1.3996E+09
Mo-99	5.1107E-01	1.0656E-09	6.4819E+15	1.8910E+10
Tc-99m	4.5573E-01	8.6670E-11	5.2721E+14	1.6862E+10
Ru-103	4.3848E-01	1.3586E-08	7.9435E+16	1.6224E+10
Ru-105	2.4206E-01	3.6010E-11	2.0653E+14	8.9563E+09
Ru-106	1.9249E-01	5.7536E-08	3.2688E+17	7.1221E+09
Rh-105	2.9480E-01	3.4927E-10	2.0032E+15	1.0908E+10
Sb-127	5.9833E-01	2.2405E-09	1.0624E+16	2.2138E+10
Sb-129	1.3777E+00	2.4500E-10	1.1437E+15	5.0975E+10
Te-127	5.9912E-01	2.2702E-10	1.0765E+15	2.2167E+10
Te-127m	8.1072E-02	8.5949E-09	4.0756E+16	2.9997E+09
Te-129	1.5234E+00	7.2744E-11	3.3959E+14	5.6367E+10
Te-129m	2.6292E-01	8.7274E-09	4.0742E+16	9.7279E+09
Te-131m	7.7332E-01	9.6980E-10	4.4582E+15	2.8613E+10
Te-132	7.7201E+00	2.5429E-08	1.1601E+17	2.8564E+11
I-131	6.9561E+01	5.6109E-07	2.5793E+18	2.5737E+12
I-132	8.2284E+01	7.9716E-09	3.6368E+16	3.0445E+12
I-133	1.3619E+02	1.2022E-07	5.4435E+17	5.0390E+12
I-134	5.1401E+01	1.9268E-09	8.6593E+15	1.9018E+12
I-135	1.1418E+02	3.2514E-08	1.4504E+17	4.2248E+12
Xe-133	2.6345E+04	1.4074E-04	6.3728E+20	9.7476E+14
Xe-135	1.0755E+04	4.2115E-06	1.8787E+19	3.9794E+14
Cs-134	1.0901E+01	8.4250E-06	3.7863E+19	4.0332E+11
Cs-136	2.6560E+00	3.6239E-08	1.6047E+17	9.8270E+10
Cs-137	6.9213E+00	7.9572E-05	3.4978E+20	2.5609E+11
Ba-139	1.7899E+00	1.0943E-10	4.7409E+14	6.6226E+10
Ba-140	3.9023E+00	5.3304E-08	2.2929E+17	1.4439E+11
La-140	8.4468E-02	1.5197E-10	6.5370E+14	3.1253E+09
La-141	2.7651E-02	4.8893E-12	2.0882E+13	1.0231E+09
La-142	1.7139E-02	1.1973E-12	5.0775E+12	6.3414E+08
Ce-141	9.2485E-02	3.2458E-09	1.3863E+16	3.4220E+09
Ce-143	8.3485E-02	1.2571E-10	5.2942E+14	3.0889E+09
Ce-144	7.6993E-02	2.4140E-08	1.0095E+17	2.8487E+09
Pr-143	3.3570E-02	4.9853E-10	2.0994E+15	1.2421E+09
Nd-147	1.4717E-02	1.8192E-10	7.4528E+14	5.4454E+08
Np-239	1.0786E+00	4.6494E-09	1.1715E+16	3.9909E+10
Pu-238	4.2884E-04	2.5049E-08	6.3382E+16	1.5867E+07
Pu-239	2.5410E-05	4.0880E-07	1.0301E+18	9.4016E+05
Pu-240	2.5608E-05	1.1238E-07	2.8199E+17	9.4748E+05
Pu-241	1.5265E-02	1.4818E-07	3.7028E+17	5.6479E+08
Am-241	1.0808E-05	3.1491E-09	7.8690E+15	3.9990E+05
Cm-242	2.1229E-03	6.4054E-10	1.5940E+15	7.8549E+07
Cm-244	2.7290E-04	3.3732E-09	8.3254E+15	1.0097E+07

Environment Transport Group Inventory:

Time (h) = 2.3500	Total Release	Release Rate/s	
Noble gases (atoms)	4.8181E+21	5.6952E+17	
Elemental I (atoms)	1.0437E+18	1.2337E+14	
Organic I (atoms)	3.6127E+17	4.2704E+13	
Aerosols (kg)	9.1679E-05	1.0837E-08	
Dose Effective (Ci) I-131 (Thyroid)			9.6077E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.1931E+02
Total I (Ci)			4.5362E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7242E+21
Elemental I (atoms)	4.1403E+16	5.6390E+17
Organic I (atoms)	0.0000E+00	1.9892E+17

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Aerosols (kg)          4.9823E-04  6.9101E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7854E+21
Elemental I (atoms)    7.0564E+16  4.0080E+17
Organic I (atoms)      0.0000E+00  1.3784E+17
Aerosols (kg)          8.7022E-05  2.1457E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.0873E+20
Elemental I (atoms)    1.4051E+16  7.9809E+16
Organic I (atoms)      0.0000E+00  2.4737E+16
Aerosols (kg)          9.1572E-06  1.1283E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0320E+18
Elemental I (atoms)    1.0168E+15  1.1967E+14
Organic I (atoms)      3.6797E+14  1.3192E+13
Aerosols (kg)          8.7635E-08  1.2788E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1837E+18
Elemental I (atoms)    0.0000E+00  4.2429E+14
Organic I (atoms)      0.0000E+00  9.8793E+13
Aerosols (kg)          0.0000E+00  4.1067E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    3.4881E+18  0.0000E+00
Elemental I (atoms)    4.4932E+14  0.0000E+00
Organic I (atoms)      7.4705E+13  0.0000E+00
Aerosols (kg)          4.5977E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5244E+00  7.3139E+00  1.8643E+00
Accumulated dose (rem)  2.4655E+00  1.6665E+01  3.2506E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.6199E-02  3.1762E-01  8.0958E-02
Accumulated dose (rem)  1.4911E-01  1.1950E+00  2.0555E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0329E-01  6.7616E+00  5.2369E-01
Accumulated dose (rem)  3.0001E-01  1.8451E+01  1.1374E+00

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	4.7806E-12	1.5034E-19	1.5610E+06	1.0222E+16
Co-60	5.7308E-12	5.0697E-18	5.0884E+07	1.2240E+16
Kr-85	1.3876E+06	3.5368E+00	2.5058E+25	5.2155E+20
Kr-85m	1.2041E+07	1.4632E-03	1.0367E+22	5.7209E+21
Kr-87	4.8855E+06	1.7248E-04	1.1939E+21	4.5673E+21
Kr-88	2.2932E+07	1.8288E-03	1.2515E+22	1.2583E+22
Rb-86	1.6097E-10	1.9784E-18	1.3853E+07	4.6704E+17
Sr-89	6.7866E-09	2.3360E-16	1.5806E+09	1.4518E+19
Sr-90	9.3876E-10	6.8821E-15	4.6050E+10	2.0051E+18
Sr-91	6.3285E-09	1.7458E-18	1.1553E+07	1.6492E+19
Sr-92	3.2846E-09	2.6132E-19	1.7106E+06	1.4155E+19
Y-90	3.0257E-11	5.5613E-20	3.7212E+05	2.1708E+16
Y-91	9.0006E-11	3.6701E-18	2.4288E+07	1.8638E+17
Y-92	1.4884E-09	1.5468E-19	1.0125E+06	3.2957E+17
Y-93	7.9547E-11	2.3843E-20	1.5439E+05	2.0486E+17
Zr-95	1.1527E-10	5.3655E-18	3.4012E+07	2.4649E+17
Zr-97	9.7279E-11	5.0887E-20	3.1592E+05	2.3233E+17
Nb-95	1.1629E-10	2.9740E-18	1.8853E+07	2.4839E+17
Mo-99	1.5333E-09	3.1969E-18	1.9447E+07	3.3698E+18
Tc-99m	1.3943E-09	2.6517E-19	1.6130E+06	2.9875E+18
Ru-103	1.3458E-09	4.1700E-17	2.4381E+08	2.8802E+18
Ru-105	5.1608E-10	7.6774E-20	4.4033E+05	1.6893E+18
Ru-106	5.9171E-10	1.7686E-16	1.0048E+09	1.2641E+18
Rh-105	8.9387E-10	1.0590E-18	6.0739E+06	1.9375E+18
Sb-127	1.8077E-09	6.7691E-18	3.2098E+07	3.9405E+18
Sb-129	2.9074E-09	5.1702E-19	2.4136E+06	9.6309E+18
Te-127	1.8266E-09	6.9213E-19	3.2820E+06	3.9344E+18
Te-127m	2.4931E-10	2.6431E-17	1.2533E+08	5.3236E+17
Te-129	3.5766E-09	1.7078E-19	7.9728E+05	1.0327E+19
Te-129m	8.0830E-10	2.6831E-17	1.2526E+08	1.7263E+18
Te-131m	2.2528E-09	2.8252E-18	1.2988E+07	5.1240E+18
Te-132	2.3250E-08	7.6584E-17	3.4939E+08	5.0871E+19
I-131	3.6001E+04	2.9039E-04	1.3349E+21	2.4471E+20
I-132	2.8476E+04	2.7587E-06	1.2586E+19	3.4398E+20
I-133	6.5450E+04	5.7777E-05	2.6161E+20	4.8474E+20
I-134	3.4866E+03	1.3070E-07	5.8738E+17	2.5851E+20
I-135	4.5922E+04	1.3076E-05	5.8331E+19	4.1845E+20
Xe-133	1.5726E+08	8.4013E-01	3.8040E+24	5.9555E+22
Xe-135	5.7505E+07	2.2518E-02	1.0045E+23	2.3914E+22
Cs-134	2.0015E-08	1.5470E-14	6.9523E+10	5.7809E+19
Cs-136	4.8501E-09	6.6176E-17	2.9303E+08	1.4099E+19
Cs-137	1.2710E-08	1.4612E-13	6.4230E+11	3.6705E+19
Ba-139	1.6668E-09	1.0190E-19	4.4149E+05	1.4320E+19
Ba-140	1.1935E-08	1.6302E-16	7.0125E+08	2.5648E+19
La-140	5.4413E-10	9.7895E-19	4.2110E+06	2.9940E+17
La-141	5.6199E-11	9.9374E-21	4.2443E+04	1.9450E+17
Ce-141	2.8402E-10	9.9678E-18	4.2572E+07	6.0752E+17
Ce-143	2.4440E-10	3.6803E-19	1.5499E+06	5.5271E+17
Ce-144	2.3666E-10	7.4201E-17	3.1031E+08	5.0561E+17
Pr-143	1.0365E-10	1.5392E-18	6.4820E+06	2.2002E+17
Nd-147	4.4972E-11	5.5591E-19	2.2774E+06	9.6743E+16
Np-239	3.2228E-09	1.3892E-17	3.5003E+07	7.1168E+18
Pu-238	1.3185E-12	7.7017E-17	1.9488E+08	2.8161E+15
Pu-239	7.8149E-14	1.2573E-15	3.1680E+09	1.6685E+14
Pu-240	7.8732E-14	3.4552E-16	8.6698E+08	1.6816E+14
Pu-241	4.6931E-11	4.5559E-16	1.1384E+09	1.0024E+17
Am-241	3.3246E-14	9.6866E-18	2.4205E+07	7.0965E+13
Cm-242	6.5244E-12	1.9686E-18	4.8988E+06	1.3942E+16
Cm-244	8.3904E-13	1.0371E-17	2.5597E+07	1.7921E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump
Noble gases (atoms)	2.8986E+25	0.0000E+00
Elemental I (atoms)	1.8759E+08	5.6543E+22
Organic I (atoms)	1.6680E+21	0.0000E+00
Aerosols (kg)	1.7238E-13	5.1152E+01

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Dose Effective (Ci/cc) I-131 (Thyroid)         1.7991E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.1710E-05
Total I (Ci)                                   1.7933E+05
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Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1552E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.3476E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1552E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.3476E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0787E+22
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	6.7438E+17
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0792E+17
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	6.6169E+12
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1079E+08
Elemental I (atoms)	0.0000E+00	3.0527E+04
Organic I (atoms)	0.0000E+00	1.9837E+04
Aerosols (kg)	0.0000E+00	2.8813E-17

Environment Integral Nuclide Release:

Time (h) = 4.0000	Ci	kg	Atoms	Bq
Co-58	2.8443E-03	8.9450E-11	9.2876E+14	1.0524E+08
Co-60	3.4074E-03	3.0144E-09	3.0255E+16	1.2607E+08
Kr-85	7.6072E+02	1.9390E-03	1.3737E+22	2.8147E+13
Kr-85m	7.9570E+03	9.6689E-07	6.8503E+18	2.9441E+14
Kr-87	5.5873E+03	1.9725E-07	1.3654E+18	2.0673E+14
Kr-88	1.7011E+04	1.3566E-06	9.2837E+18	6.2940E+14
Rb-86	1.4080E-01	1.7304E-09	1.2117E+16	5.2095E+09
Sr-89	4.0389E+00	1.3902E-07	9.4069E+17	1.4944E+11
Sr-90	5.5816E-01	4.0919E-06	2.7380E+19	2.0652E+10
Sr-91	4.2531E+00	1.1733E-09	7.7645E+15	1.5737E+11
Sr-92	3.0525E+00	2.4285E-10	1.5897E+15	1.1294E+11
Y-90	1.2838E-02	2.3597E-11	1.5789E+14	4.7502E+08
Y-91	5.2890E-02	2.1567E-09	1.4272E+16	1.9569E+09
Y-92	7.0576E-01	7.3346E-11	4.8011E+14	2.6113E+10
Y-93	5.3067E-02	1.5906E-11	1.0300E+14	1.9635E+09

Zr-95	6.8584E-02	3.1925E-09	2.0238E+16	2.5376E+09
Zr-97	6.1932E-02	3.2397E-11	2.0113E+14	2.2915E+09
Nb-95	6.9146E-02	1.7683E-09	1.1209E+16	2.5584E+09
Mo-99	9.2763E-01	1.9341E-09	1.1765E+16	3.4322E+10
Tc-99m	8.3207E-01	1.5824E-10	9.6257E+14	3.0786E+10
Ru-103	8.0115E-01	2.4824E-08	1.4514E+17	2.9643E+10
Ru-105	4.0072E-01	5.9614E-11	3.4191E+14	1.4827E+10
Ru-106	3.5186E-01	1.0517E-07	5.9751E+17	1.3019E+10
Rh-105	5.3700E-01	6.3622E-10	3.6490E+15	1.9869E+10
Sb-127	1.0882E+00	4.0749E-09	1.9323E+16	4.0264E+10
Sb-129	2.2749E+00	4.0455E-10	1.8886E+15	8.4172E+10
Te-127	1.0926E+00	4.1399E-10	1.9631E+15	4.0425E+10
Te-127m	1.4821E-01	1.5713E-08	7.4507E+16	5.4838E+09
Te-129	2.5881E+00	1.2358E-10	5.7692E+14	9.5759E+10
Te-129m	4.8063E-01	1.5954E-08	7.4479E+16	1.7783E+10
Te-131m	1.3918E+00	1.7455E-09	8.0240E+15	5.1498E+10
Te-132	1.4028E+01	4.6207E-08	2.1081E+17	5.1904E+11
I-131	1.2499E+02	1.0082E-06	4.6347E+18	4.6247E+12
I-132	1.3182E+02	1.2771E-08	5.8263E+16	4.8774E+12
I-133	2.3941E+02	2.1134E-07	9.5692E+17	8.8580E+12
I-134	6.2158E+01	2.3301E-09	1.0472E+16	2.2999E+12
I-135	1.9093E+02	5.4367E-08	2.4252E+17	7.0643E+12
Xe-133	8.6671E+04	4.6303E-04	2.0966E+21	3.2068E+15
Xe-135	3.3602E+04	1.3158E-05	5.8695E+19	1.2433E+15
Cs-134	1.7456E+01	1.3492E-05	6.0635E+19	6.4588E+11
Cs-136	4.2474E+00	5.7953E-08	2.5662E+17	1.5715E+11
Cs-137	1.1084E+01	1.2743E-04	5.6015E+20	4.1011E+11
Ba-139	2.4908E+00	1.5228E-10	6.5974E+14	9.2159E+10
Ba-140	7.1227E+00	9.7292E-08	4.1851E+17	2.6354E+11
La-140	2.2042E-01	3.9656E-10	1.7058E+15	8.1556E+09
La-141	4.5235E-02	7.9986E-12	3.4162E+13	1.6737E+09
La-142	2.4401E-02	1.7045E-12	7.2288E+12	9.0282E+08
Ce-141	1.6900E-01	5.9312E-09	2.5332E+16	6.2530E+09
Ce-143	1.5047E-01	2.2658E-10	9.5420E+14	5.5673E+09
Ce-144	1.4074E-01	4.4125E-08	1.8453E+17	5.2073E+09
Pr-143	6.1472E-02	9.1288E-10	3.8444E+15	2.2745E+09
Nd-147	2.6856E-02	3.3197E-10	1.3600E+15	9.9366E+08
Np-239	1.9555E+00	8.4291E-09	2.1239E+16	7.2352E+10
Pu-238	7.8393E-04	4.5791E-08	1.1587E+17	2.9005E+07
Pu-239	4.6455E-05	7.4738E-07	1.8832E+18	1.7188E+06
Pu-240	4.6812E-05	2.0543E-07	5.1548E+17	1.7320E+06
Pu-241	2.7904E-02	2.7088E-07	6.7688E+17	1.0325E+09
Am-241	1.9761E-05	5.7576E-09	1.4387E+16	7.3116E+05
Cm-242	3.8804E-03	1.1708E-09	2.9135E+15	1.4357E+08
Cm-244	4.9887E-04	6.1663E-09	1.5219E+16	1.8458E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.5910E+22	1.1049E+18
Elemental I (atoms)	1.7742E+18	1.2321E+14
Organic I (atoms)	1.0461E+18	7.2647E+13
Aerosols (kg)	1.4756E-04	1.0247E-08
Dose Effective (Ci) I-131 (Thyroid)		1.7122E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		2.1068E+02
Total I (Ci)		7.4930E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.0793E+21
Elemental I (atoms)	6.3866E+16	8.6984E+17
Organic I (atoms)	0.0000E+00	5.2546E+17
Aerosols (kg)	7.6651E-04	1.0631E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5191E+21
Elemental I (atoms)	1.2860E+17	7.3044E+17
Organic I (atoms)	0.0000E+00	4.3242E+17
Aerosols (kg)	1.5731E-04	3.8788E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3133E+21
Elemental I (atoms)	3.0940E+16	1.7574E+17
Organic I (atoms)	0.0000E+00	8.9454E+16
Aerosols (kg)	2.0011E-05	2.4658E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5021E+19
Elemental I (atoms)	1.6689E+15	1.2625E+14
Organic I (atoms)	9.7938E+14	1.9368E+13
Aerosols (kg)	1.3745E-07	1.3291E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3758E+18
Elemental I (atoms)	0.0000E+00	5.6884E+14
Organic I (atoms)	0.0000E+00	2.3432E+14
Aerosols (kg)	0.0000E+00	5.2108E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.3482E+19	0.0000E+00
Elemental I (atoms)	6.3499E+14	0.0000E+00
Organic I (atoms)	1.9566E+14	0.0000E+00
Aerosols (kg)	6.1179E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5883E+00	1.3272E+01	4.1269E+00
Accumulated dose (rem)	6.0538E+00	2.9936E+01	7.3775E+00

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5583E-01	5.7634E-01	1.7922E-01
Accumulated dose (rem)	3.0493E-01	1.7713E+00	3.8476E-01

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.3737E-01	1.1181E+01	1.0072E+00
Accumulated dose (rem)	8.3738E-01	2.9632E+01	2.1446E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Kr-85	1.3846E+06	3.5290E+00	2.5003E+25	1.2600E+21

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Kr-85m                 6.4706E+06  7.8626E-04  5.5706E+21  1.0500E+22
Kr-87                  5.5090E+05  1.9449E-05  1.3462E+20  5.6255E+21
Kr-88                  8.6197E+06  6.8742E-04  4.7042E+21  2.0376E+22
Sr-90                  2.6644E-15  1.9533E-20  1.3070E+05  2.0051E+18
I-131                  3.5409E+04  2.8562E-04  1.3130E+21  2.6373E+20
I-132                  8.5111E+03  8.2454E-07  3.7618E+18  3.5278E+20
I-133                  5.7156E+04  5.0455E-05  2.2846E+20  5.1735E+20
I-134                  1.4721E+02  5.5182E-09  2.4799E+16  2.5907E+20
I-135                  3.0123E+04  8.5774E-06  3.8263E+19  4.3841E+20
Xe-133                 1.5349E+08  8.2002E-01  3.7130E+24  1.4233E+23
Xe-135                 4.2302E+07  1.6565E-02  7.3893E+22  5.0295E+22
Cs-134                 7.6917E-14  5.9449E-20  2.6717E+05  5.7809E+19
Cs-137                 4.8850E-14  5.6161E-19  2.4687E+06  3.6705E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    2.8800E+25  0.0000E+00
Elemental I (atoms)    6.5078E+02  5.6543E+22
Organic I (atoms)      1.5835E+21  0.0000E+00
Aerosols (kg)          6.5225E-19  5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.7042E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.9889E-05
Total I (Ci)                                   1.3135E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.7027E+22
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  2.7801E+18
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.7027E+22
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  2.7801E+18
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3561E+22
Elemental I (atoms)    0.0000E+00  7.4509E+17
Organic I (atoms)      0.0000E+00  1.3927E+18
Aerosols (kg)          0.0000E+00  6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6120E+17
Elemental I (atoms)    0.0000E+00  5.3539E+12
Organic I (atoms)      0.0000E+00  1.5236E+13
Aerosols (kg)          0.0000E+00  4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7837E+09
Elemental I (atoms)    0.0000E+00  7.0514E+04
Organic I (atoms)      0.0000E+00  1.0455E+05
```

Aerosols (kg) 0.0000E+00 6.7955E-17

Environment Integral Nuclide Release:

Time (h) = 8.0000	Ci	kg	Atoms	Bq
Co-58	4.2999E-03	1.3523E-10	1.4040E+15	1.5910E+08
Co-60	5.1534E-03	4.5590E-09	4.5758E+16	1.9068E+08
Kr-85	2.9520E+03	7.5243E-03	5.3308E+22	1.0923E+14
Kr-85m	2.1724E+04	2.6398E-06	1.8703E+19	8.0380E+14
Kr-87	8.4195E+03	2.9724E-07	2.0575E+18	3.1152E+14
Kr-88	3.9079E+04	3.1166E-06	2.1328E+19	1.4459E+15
Rb-86	1.9973E-01	2.4547E-09	1.7189E+16	7.3900E+09
Sr-89	6.1047E+00	2.1013E-07	1.4218E+18	2.2587E+11
Sr-90	8.4418E-01	6.1887E-06	4.1410E+19	3.1235E+10
Sr-91	5.9677E+00	1.6463E-09	1.0895E+16	2.2081E+11
Sr-92	3.7339E+00	2.9707E-10	1.9445E+15	1.3816E+11
Y-90	2.8753E-02	5.2848E-11	3.5362E+14	1.0638E+09
Y-91	8.1189E-02	3.3106E-09	2.1909E+16	3.0040E+09
Y-92	1.3399E+00	1.3925E-10	9.1148E+14	4.9576E+10
Y-93	7.4766E-02	2.2410E-11	1.4511E+14	2.7663E+09
Zr-95	1.0368E-01	4.8260E-09	3.0593E+16	3.8360E+09
Zr-97	8.9656E-02	4.6899E-11	2.9117E+14	3.3173E+09
Nb-95	1.0458E-01	2.6744E-09	1.6953E+16	3.8694E+09
Mo-99	1.3868E+00	2.8914E-09	1.7589E+16	5.1311E+10
Tc-99m	1.2541E+00	2.3850E-10	1.4508E+15	4.6402E+10
Ru-103	1.2107E+00	3.7513E-08	2.1933E+17	4.4796E+10
Ru-105	5.2399E-01	7.7951E-11	4.4708E+14	1.9388E+10
Ru-106	5.3212E-01	1.5905E-07	9.0361E+17	1.9688E+10
Rh-105	8.0489E-01	9.5360E-10	5.4693E+15	2.9781E+10
Sb-127	1.6322E+00	6.1120E-09	2.8982E+16	6.0392E+10
Sb-129	2.9649E+00	5.2725E-10	2.4614E+15	1.0970E+11
Te-127	1.6454E+00	6.2348E-10	2.9564E+15	6.0881E+10
Te-127m	2.2418E-01	2.3767E-08	1.1270E+17	8.2947E+09
Te-129	3.4851E+00	1.6641E-10	7.7687E+14	1.2895E+11
Te-129m	7.2678E-01	2.4125E-08	1.1262E+17	2.6891E+10
Te-131m	2.0527E+00	2.5742E-09	1.1834E+16	7.5951E+10
Te-132	2.1009E+01	6.9202E-08	3.1572E+17	7.7734E+11
I-131	2.2931E+02	1.8496E-06	8.5028E+18	8.4843E+12
I-132	1.8640E+02	1.8058E-08	8.2386E+16	6.8968E+12
I-133	4.1851E+02	3.6945E-07	1.6728E+18	1.5485E+13
I-134	6.5336E+01	2.4492E-09	1.1007E+16	2.4174E+12
I-135	3.0097E+02	8.5700E-08	3.8229E+17	1.1136E+13
Xe-133	3.3200E+05	1.7737E-03	8.0311E+21	1.2284E+16
Xe-135	1.1047E+05	4.3260E-05	1.9297E+20	4.0875E+15
Cs-134	2.4802E+01	1.9169E-05	8.6150E+19	9.1768E+11
Cs-136	6.0211E+00	8.2154E-08	3.6378E+17	2.2278E+11
Cs-137	1.5749E+01	1.8106E-04	7.9590E+20	5.8272E+11
Ba-139	2.7455E+00	1.6785E-10	7.2719E+14	1.0158E+11
Ba-140	1.0745E+01	1.4678E-07	6.3136E+17	3.9758E+11
La-140	5.1839E-01	9.3264E-10	4.0118E+15	1.9180E+10
La-141	5.8268E-02	1.0303E-11	4.4005E+13	2.1559E+09
La-142	2.7349E-02	1.9105E-12	8.1022E+12	1.0119E+09
Ce-141	2.5541E-01	8.9636E-09	3.8284E+16	9.4500E+09
Ce-143	2.2241E-01	3.3491E-10	1.4104E+15	8.2292E+09
Ce-144	2.1283E-01	6.6729E-08	2.7906E+17	7.8747E+09
Pr-143	9.3256E-02	1.3849E-09	5.8322E+15	3.4505E+09
Nd-147	4.0498E-02	5.0060E-10	2.0508E+15	1.4984E+09
Np-239	2.9178E+00	1.2577E-08	3.1691E+16	1.0796E+11
Pu-238	1.1856E-03	6.9256E-08	1.7524E+17	4.3869E+07
Pu-239	7.0270E-05	1.1305E-06	2.8486E+18	2.6000E+06
Pu-240	7.0800E-05	3.1071E-07	7.7963E+17	2.6196E+06
Pu-241	4.2203E-02	4.0969E-07	1.0237E+18	1.5615E+09
Am-241	2.9896E-05	8.7104E-09	2.1766E+16	1.1061E+06
Cm-242	5.8676E-03	1.7704E-09	4.4056E+15	2.1710E+08
Cm-244	7.5451E-04	9.3261E-09	2.3018E+16	2.7917E+07

Environment Transport Group Inventory:

```
                          Total      Release
Time (h) =   8.0000      Release     Rate/s
Noble gases (atoms)     6.1575E+22  2.1380E+18
Elemental I (atoms)     2.6376E+18  9.1584E+13
Organic I (atoms)       3.6556E+18  1.2693E+14
Aerosols (kg)           2.1019E-04  7.2983E-09
Dose Effective (Ci) I-131 (Thyroid)             3.0886E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)       3.7404E+02
Total I  (Ci)                                   1.2005E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     0.0000E+00  2.7824E+22
Elemental I (atoms)     8.7976E+16  1.1982E+18
Organic I (atoms)       0.0000E+00  1.6514E+18
Aerosols (kg)           1.0641E-03  1.4758E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     0.0000E+00  2.6562E+22
Elemental I (atoms)     1.8924E+17  1.0749E+18
Organic I (atoms)       0.0000E+00  1.5774E+18
Aerosols (kg)           2.3281E-04  5.7404E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     0.0000E+00  7.1947E+21
Elemental I (atoms)     6.4690E+16  3.6744E+17
Organic I (atoms)       0.0000E+00  4.3123E+17
Aerosols (kg)           4.2305E-05  5.2127E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     0.0000E+00  5.6145E+19
Elemental I (atoms)     2.4396E+15  1.3404E+14
Organic I (atoms)       3.3085E+15  4.2895E+13
Aerosols (kg)           1.9329E-07  1.3855E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     0.0000E+00  1.2400E+19
Elemental I (atoms)     0.0000E+00  7.3967E+14
Organic I (atoms)       0.0000E+00  7.5060E+14
Aerosols (kg)           0.0000E+00  6.4485E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000      Filtered   Transported
Noble gases (atoms)     5.9809E+19  0.0000E+00
Elemental I (atoms)     8.4893E+14  0.0000E+00
Organic I (atoms)       6.9688E+14  0.0000E+00
Aerosols (kg)           7.7084E-08  0.0000E+00

Exclusion Area Boundary Doses:
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Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0335E+00  3.6471E+01  7.2136E+00
Accumulated dose (rem)  1.2087E+01  6.6407E+01  1.4591E+01

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6875E-01  5.2458E-01  1.8572E-01
Accumulated dose (rem)  4.7368E-01  2.2959E+00  5.7048E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.5112E-01  1.3196E+01  8.8648E-01
Accumulated dose (rem)  1.2885E+00  4.2828E+01  3.0311E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
Kr-85                  1.3723E+06  3.4978E+00  2.4781E+25  4.1972E+21
Kr-85m                 5.3952E+05  6.5559E-05  4.6447E+20  1.5587E+22
Kr-87                  8.9065E+01  3.1443E-09  2.1765E+16  5.7600E+21
Kr-88                  1.7207E+05  1.3723E-05  9.3911E+19  2.4975E+22
Sr-90                  2.6643E-15  1.9532E-20  1.3069E+05  2.0051E+18
I-131                  3.3138E+04  2.6730E-04  1.2288E+21  3.3673E+20
I-132                  6.7925E+01  6.5805E-09  3.0022E+16  3.5651E+20
I-133                  3.3241E+04  2.9343E-05  1.3286E+20  6.1137E+20
I-134                  4.6775E-04  1.7534E-14  7.8800E+10  2.5910E+20
I-135                  5.5769E+03  1.5880E-06  7.0840E+18  4.6942E+20
Xe-133                 1.3932E+08  7.4429E-01  3.3701E+24  4.5405E+23
Xe-135                 1.2386E+07  4.8502E-03  2.1636E+22  1.0219E+23
Cs-134                 7.6870E-14  5.9413E-20  2.6701E+05  5.7809E+19
Cs-137                 4.8848E-14  5.6159E-19  2.4686E+06  3.6705E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    2.8174E+25  0.0000E+00
Elemental I (atoms)    5.6834E+02  5.6543E+22
Organic I (atoms)      1.3687E+21  0.0000E+00
Aerosols (kg)          6.5177E-19  5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4435E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.5795E-05
Total I (Ci)                                   7.2023E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4749E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  7.9653E+18
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4749E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  7.9653E+18
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.3934E+22
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Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	3.9927E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6568E+17
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	4.6437E+13
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9722E+10
Elemental I (atoms)	0.0000E+00	2.1631E+05
Organic I (atoms)	0.0000E+00	1.0292E+06
Aerosols (kg)	0.0000E+00	2.2444E-16

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	4.9106E-03	1.5443E-10	1.6035E+15	1.8169E+08
Co-60	5.8876E-03	5.2085E-09	5.2277E+16	2.1784E+08
Kr-85	1.4633E+04	3.7297E-02	2.6425E+23	5.4142E+14
Kr-85m	4.0650E+04	4.9395E-06	3.4996E+19	1.5040E+15
Kr-87	8.8940E+03	3.1399E-07	2.1734E+18	3.2908E+14
Kr-88	5.5820E+04	4.4516E-06	3.0464E+19	2.0653E+15
Rb-86	2.2437E-01	2.7574E-09	1.9309E+16	8.3015E+09
Sr-89	6.9706E+00	2.3993E-07	1.6235E+18	2.5791E+11
Sr-90	9.6446E-01	7.0705E-06	4.7310E+19	3.5685E+10
Sr-91	6.4514E+00	1.7797E-09	1.1778E+16	2.3870E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2281E-02	7.7713E-11	5.2000E+14	1.5644E+09
Y-91	9.3729E-02	3.8220E-09	2.5293E+16	3.4680E+09
Y-92	1.5213E+00	1.5810E-10	1.0349E+15	5.6287E+10
Y-93	8.1028E-02	2.4287E-11	1.5727E+14	2.9980E+09
Zr-95	1.1840E-01	5.5112E-09	3.4936E+16	4.3807E+09
Zr-97	9.8925E-02	5.1748E-11	3.2127E+14	3.6602E+09
Nb-95	1.1948E-01	3.0554E-09	1.9369E+16	4.4206E+09
Mo-99	1.5686E+00	3.2706E-09	1.9895E+16	5.8038E+10
Tc-99m	1.4261E+00	2.7120E-10	1.6497E+15	5.2764E+10
Ru-103	1.3822E+00	4.2827E-08	2.5040E+17	5.1141E+10
Ru-105	5.4696E-01	8.1369E-11	4.6668E+14	2.0238E+10
Ru-106	6.0789E-01	1.8170E-07	1.0323E+18	2.2492E+10
Rh-105	9.0904E-01	1.0770E-09	6.1769E+15	3.3634E+10
Sb-127	1.8514E+00	6.9326E-09	3.2873E+16	6.8500E+10
Sb-129	3.0909E+00	5.4965E-10	2.5660E+15	1.1436E+11
Te-127	1.8723E+00	7.0943E-10	3.3640E+15	6.9274E+10
Te-127m	2.5614E-01	2.7155E-08	1.2876E+17	9.4772E+09
Te-129	3.6963E+00	1.7650E-10	8.2396E+14	1.3676E+11
Te-129m	8.2997E-01	2.7551E-08	1.2862E+17	3.0709E+10
Te-131m	2.2965E+00	2.8800E-09	1.3240E+16	8.4972E+10
Te-132	2.3800E+01	7.8394E-08	3.5765E+17	8.8059E+11
I-131	5.4004E+02	4.3561E-06	2.0025E+19	1.9982E+13
I-132	2.1774E+02	2.1095E-08	9.6240E+16	8.0565E+12
I-133	8.1649E+02	7.2076E-07	3.2636E+18	3.0210E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.3137E+02	1.2283E-07	5.4794E+17	1.5961E+13
Xe-133	1.5680E+06	8.3769E-03	3.7930E+22	5.8016E+16
Xe-135	3.0923E+05	1.2109E-04	5.4015E+20	1.1441E+16
Cs-134	2.7900E+01	2.1564E-05	9.6910E+19	1.0323E+12
Cs-136	6.7598E+00	9.2232E-08	4.0841E+17	2.5011E+11
Cs-137	1.7717E+01	2.0368E-04	8.9533E+20	6.5552E+11

Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2249E+01	1.6732E-07	7.1971E+17	4.5321E+11
La-140	7.7331E-01	1.3913E-09	5.9846E+15	2.8613E+10
La-141	6.0474E-02	1.0693E-11	4.5671E+13	2.2375E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9157E-01	1.0233E-08	4.3705E+16	1.0788E+10
Ce-143	2.4926E-01	3.7535E-10	1.5807E+15	9.2227E+09
Ce-144	2.4313E-01	7.6229E-08	3.1879E+17	8.9958E+09
Pr-143	1.0680E-01	1.5860E-09	6.6793E+15	3.9517E+09
Nd-147	4.6149E-02	5.7046E-10	2.3370E+15	1.7075E+09
Np-239	3.2950E+00	1.4203E-08	3.5788E+16	1.2192E+11
Pu-238	1.3546E-03	7.9125E-08	2.0021E+17	5.0120E+07
Pu-239	8.0293E-05	1.2918E-06	3.2549E+18	2.9708E+06
Pu-240	8.0887E-05	3.5498E-07	8.9072E+17	2.9928E+06
Pu-241	4.8216E-02	4.6806E-07	1.1696E+18	1.7840E+09
Am-241	3.4164E-05	9.9540E-09	2.4873E+16	1.2641E+06
Cm-242	6.7025E-03	2.0223E-09	5.0325E+15	2.4799E+08
Cm-244	8.6201E-04	1.0655E-08	2.6297E+16	3.1894E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.0279E+23	3.5045E+18	
Elemental I (atoms)	3.0297E+18	3.5067E+13	
Organic I (atoms)	1.6050E+19	1.8576E+14	
Aerosols (kg)	2.3660E-04	2.7384E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.8980E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			8.0314E+02
Total I (Ci)			2.0711E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2592E+23
Elemental I (atoms)	1.0141E+17	1.3323E+18
Organic I (atoms)	0.0000E+00	6.7184E+18
Aerosols (kg)	1.1961E-03	1.6589E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2570E+23
Elemental I (atoms)	2.1041E+17	1.1616E+18
Organic I (atoms)	0.0000E+00	6.6973E+18
Aerosols (kg)	2.5422E-04	6.2684E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1309E+22
Elemental I (atoms)	1.0683E+17	5.3998E+17
Organic I (atoms)	0.0000E+00	2.7118E+18
Aerosols (kg)	6.5174E-05	8.0305E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4820E+20
Elemental I (atoms)	2.5882E+15	1.3554E+14
Organic I (atoms)	8.0164E+15	9.0449E+13
Aerosols (kg)	2.0326E-07	1.3956E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2602E+19
Elemental I (atoms)	0.0000E+00	7.7260E+14
Organic I (atoms)	0.0000E+00	1.7941E+15
Aerosols (kg)	0.0000E+00	6.6695E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.7628E+20	0.0000E+00
Elemental I (atoms)	9.0037E+14	0.0000E+00
Organic I (atoms)	1.8324E+15	0.0000E+00
Aerosols (kg)	8.0637E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7206E+00	2.2440E+01	2.4098E+00
Accumulated dose (rem)	1.3808E+01	8.8847E+01	1.7001E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8508E-02	1.5863E-01	2.3380E-02
Accumulated dose (rem)	4.9219E-01	2.4545E+00	5.9386E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.1210E-02	3.1931E+00	1.4932E-01
Accumulated dose (rem)	1.3397E+00	4.6021E+01	3.1804E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Kr-85	1.3630E+06	3.4741E+00	2.4613E+25	8.5687E+21
Kr-85m	1.3076E+04	1.5889E-06	1.1257E+19	1.6039E+22
Kr-87	1.8430E-04	6.5065E-15	4.5038E+10	5.7600E+21
Kr-88	4.8857E+02	3.8963E-08	2.6664E+17	2.5069E+22
Sr-90	2.6642E-15	1.9531E-20	1.3069E+05	2.0051E+18
I-131	3.0200E+04	2.4360E-04	1.1198E+21	4.3788E+20
I-132	4.8750E-02	4.7228E-12	2.1547E+13	3.5654E+20
I-133	1.4841E+04	1.3101E-05	5.9319E+19	6.8430E+20
I-135	4.4722E+02	1.2735E-07	5.6807E+17	4.7592E+20
Xe-133	1.2127E+08	6.4786E-01	2.9335E+24	8.6984E+23
Xe-135	1.9746E+06	7.7323E-04	3.4493E+21	1.2032E+23
Cs-134	7.6801E-14	5.9359E-20	2.6677E+05	5.7809E+19
Cs-137	4.8846E-14	5.6157E-19	2.4685E+06	3.6705E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	2.7550E+25	0.0000E+00
Elemental I (atoms)	4.9330E+02	5.6543E+22
Organic I (atoms)	1.1797E+21	0.0000E+00
Aerosols (kg)	6.5129E-19	5.1152E+01
Dose Effective (Ci/cc)	I-131 (Thyroid)	1.2149E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	1.2715E-05
Total I (Ci)		4.5488E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported

Noble gases (atoms)	0.0000E+00	2.2140E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.1337E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2140E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.1337E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1068E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	5.6688E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7526E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	8.6895E+13
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.1810E+10
Elemental I (atoms)	0.0000E+00	4.0696E+05
Organic I (atoms)	0.0000E+00	3.8533E+06
Aerosols (kg)	0.0000E+00	4.5900E-16

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	4.9180E-03	1.5466E-10	1.6059E+15	1.8197E+08
Co-60	5.8965E-03	5.2164E-09	5.2357E+16	2.1817E+08
Kr-85	2.3695E+04	6.0395E-02	4.2789E+23	8.7671E+14
Kr-85m	4.1516E+04	5.0447E-06	3.5741E+19	1.5361E+15
Kr-87	8.8940E+03	3.1399E-07	2.1735E+18	3.2908E+14
Kr-88	5.5990E+04	4.4652E-06	3.0557E+19	2.0716E+15
Rb-86	2.2466E-01	2.7611E-09	1.9334E+16	8.3125E+09
Sr-89	6.9810E+00	2.4029E-07	1.6259E+18	2.5830E+11
Sr-90	9.6593E-01	7.0812E-06	4.7382E+19	3.5739E+10
Sr-91	6.4529E+00	1.7801E-09	1.1780E+16	2.3876E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2699E-02	7.8483E-11	5.2515E+14	1.5799E+09
Y-91	9.3893E-02	3.8286E-09	2.5337E+16	3.4740E+09
Y-92	1.5214E+00	1.5811E-10	1.0350E+15	5.6292E+10
Y-93	8.1048E-02	2.4293E-11	1.5730E+14	2.9988E+09
Zr-95	1.1857E-01	5.5195E-09	3.4988E+16	4.3872E+09
Zr-97	9.8976E-02	5.1775E-11	3.2144E+14	3.6621E+09
Nb-95	1.1966E-01	3.0601E-09	1.9398E+16	4.4273E+09
Mo-99	1.5704E+00	3.2743E-09	1.9918E+16	5.8105E+10
Tc-99m	1.4279E+00	2.7155E-10	1.6518E+15	5.2832E+10
Ru-103	1.3843E+00	4.2891E-08	2.5077E+17	5.1218E+10
Ru-105	5.4698E-01	8.1371E-11	4.6669E+14	2.0238E+10
Ru-106	6.0881E-01	1.8198E-07	1.0339E+18	2.2526E+10

Rh-105	9.0993E-01	1.0780E-09	6.1830E+15	3.3667E+10
Sb-127	1.8537E+00	6.9412E-09	3.2914E+16	6.8585E+10
Sb-129	3.0910E+00	5.4967E-10	2.5660E+15	1.1437E+11
Te-127	1.8748E+00	7.1039E-10	3.3686E+15	6.9367E+10
Te-127m	2.5653E-01	2.7196E-08	1.2896E+17	9.4917E+09
Te-129	3.6975E+00	1.7656E-10	8.2423E+14	1.3681E+11
Te-129m	8.3121E-01	2.7592E-08	1.2881E+17	3.0755E+10
Te-131m	2.2984E+00	2.8824E-09	1.3250E+16	8.5041E+10
Te-132	2.3828E+01	7.8488E-08	3.5808E+17	8.8165E+11
I-131	7.4967E+02	6.0470E-06	2.7798E+19	2.7738E+13
I-132	2.1835E+02	2.1153E-08	9.6507E+16	8.0789E+12
I-133	9.6537E+02	8.5219E-07	3.8587E+18	3.5719E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.4416E+02	1.2647E-07	5.6418E+17	1.6434E+13
Xe-133	2.4275E+06	1.2969E-02	5.8721E+22	8.9818E+16
Xe-135	3.4535E+05	1.3523E-04	6.0326E+20	1.2778E+16
Cs-134	2.7938E+01	2.1593E-05	9.7044E+19	1.0337E+12
Cs-136	6.7686E+00	9.2352E-08	4.0894E+17	2.5044E+11
Cs-137	1.7741E+01	2.0396E-04	8.9656E+20	6.5642E+11
Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2267E+01	1.6756E-07	7.2074E+17	4.5386E+11
La-140	7.8074E-01	1.4046E-09	6.0421E+15	2.8887E+10
La-141	6.0475E-02	1.0693E-11	4.5672E+13	2.2376E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9201E-01	1.0248E-08	4.3770E+16	1.0804E+10
Ce-143	2.4948E-01	3.7568E-10	1.5821E+15	9.2308E+09
Ce-144	2.4350E-01	7.6344E-08	3.1928E+17	9.0095E+09
Pr-143	1.0697E-01	1.5886E-09	6.6899E+15	3.9580E+09
Nd-147	4.6215E-02	5.7127E-10	2.3403E+15	1.7099E+09
Np-239	3.2986E+00	1.4219E-08	3.5828E+16	1.2205E+11
Pu-238	1.3567E-03	7.9245E-08	2.0051E+17	5.0196E+07
Pu-239	8.0415E-05	1.2938E-06	3.2599E+18	2.9754E+06
Pu-240	8.1011E-05	3.5552E-07	8.9207E+17	2.9974E+06
Pu-241	4.8289E-02	4.6877E-07	1.1714E+18	1.7867E+09
Am-241	3.4216E-05	9.9693E-09	2.4911E+16	1.2660E+06
Cm-242	6.7126E-03	2.0254E-09	5.0401E+15	2.4837E+08
Cm-244	8.6332E-04	1.0671E-08	2.6337E+16	3.1943E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.8728E+23	2.8199E+18
Elemental I (atoms)	3.0374E+18	1.7578E+13
Organic I (atoms)	2.4422E+19	1.4133E+14
Aerosols (kg)	2.3692E-04	1.3711E-09

Dose Effective (Ci) I-131 (Thyroid)	9.2458E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0537E+03
Total I (Ci)	2.4430E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9987E+23
Elemental I (atoms)	1.0159E+17	1.3333E+18
Organic I (atoms)	0.0000E+00	1.0092E+19
Aerosols (kg)	1.1973E-03	1.6605E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9967E+23
Elemental I (atoms)	2.1048E+17	1.1617E+18
Organic I (atoms)	0.0000E+00	1.0071E+19
Aerosols (kg)	2.5427E-04	6.2695E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8012E+22
Elemental I (atoms)	1.0999E+17	5.4661E+17
Organic I (atoms)	0.0000E+00	4.3864E+18
Aerosols (kg)	6.6411E-05	8.1830E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9463E+20
Elemental I (atoms)	2.5901E+15	1.3556E+14
Organic I (atoms)	1.0113E+16	1.1163E+14
Aerosols (kg)	2.0334E-07	1.3957E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2789E+19
Elemental I (atoms)	0.0000E+00	7.7302E+14
Organic I (atoms)	0.0000E+00	2.2589E+15
Aerosols (kg)	0.0000E+00	6.6714E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.3566E+20	0.0000E+00
Elemental I (atoms)	9.0094E+14	0.0000E+00
Organic I (atoms)	2.3436E+15	0.0000E+00
Aerosols (kg)	8.0661E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1673E+00	1.9296E+01	1.7571E+00
Accumulated dose (rem)	1.4975E+01	1.0814E+02	1.8758E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2557E-02	1.3640E-01	1.6726E-02
Accumulated dose (rem)	5.0475E-01	2.5909E+00	6.1059E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2004E-02	2.5693E+00	1.1054E-01
Accumulated dose (rem)	1.3717E+00	4.8591E+01	3.2910E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Kr-85	1.3538E+06	3.4505E+00	2.4447E+25	1.2911E+22
Kr-85m	3.1691E+02	3.8508E-08	2.7283E+17	1.6050E+22
Kr-87	3.8137E-10	1.3464E-20	9.3197E+04	5.7600E+21
Kr-88	1.3872E+00	1.1063E-10	7.5706E+14	2.5069E+22
Sr-90	2.6640E-15	1.9530E-20	1.3068E+05	2.0051E+18
I-131	2.7522E+04	2.2200E-04	1.0205E+21	5.3007E+20
I-132	3.4987E-05	3.3895E-15	1.5464E+10	3.5654E+20
I-133	6.6257E+03	5.8489E-06	2.6483E+19	7.1687E+20
I-135	3.5863E+01	1.0212E-08	4.5554E+16	4.7644E+20

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Xe-133                 1.0556E+08  5.6392E-01  2.5534E+24  1.2318E+24
Xe-135                 3.1472E+05  1.2324E-04  5.4975E+20  1.2321E+23
Cs-134                 7.6730E-14  5.9305E-20  2.6652E+05  5.7809E+19
Cs-137                 4.8843E-14  5.6153E-19  2.4683E+06  3.6705E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =  72.0000    Atmosphere     Sump
Noble gases (atoms)    2.7001E+25  0.0000E+00
Elemental I (atoms)    4.4081E+02  5.6543E+22
Organic I (atoms)      1.0471E+21  0.0000E+00
Aerosols (kg)          6.5090E-19  5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0641E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.0891E-05
Total I (Ci)                                   3.4184E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9376E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  1.4289E+19
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9376E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  1.4289E+19
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4665E+23
Elemental I (atoms)    0.0000E+00  7.4509E+17
Organic I (atoms)      0.0000E+00  7.1365E+18
Aerosols (kg)          0.0000E+00  6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6209E+18
Elemental I (atoms)    0.0000E+00  5.3539E+12
Organic I (atoms)      0.0000E+00  1.2232E+14
Aerosols (kg)          0.0000E+00  4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8482E+11
Elemental I (atoms)    0.0000E+00  5.7506E+05
Organic I (atoms)      0.0000E+00  8.0538E+06
Aerosols (kg)          0.0000E+00  6.9340E-16

Environment Integral Nuclide Release:

Time (h) =  72.0000       Ci           kg         Atoms         Bq
Co-58                  4.9185E-03  1.5468E-10  1.6060E+15  1.8198E+08
Co-60                  5.8972E-03  5.2169E-09  5.2362E+16  2.1819E+08
Kr-85                  3.2712E+04  8.3379E-02  5.9073E+23  1.2104E+15
Kr-85m                 4.1537E+04  5.0473E-06  3.5759E+19  1.5369E+15
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Kr-87	8.8940E+03	3.1399E-07	2.1735E+18	3.2908E+14
Kr-88	5.5991E+04	4.4653E-06	3.0557E+19	2.0717E+15
Rb-86	2.2468E-01	2.7613E-09	1.9336E+16	8.3132E+09
Sr-89	6.9817E+00	2.4032E-07	1.6261E+18	2.5832E+11
Sr-90	9.6603E-01	7.0819E-06	4.7387E+19	3.5743E+10
Sr-91	6.4529E+00	1.7801E-09	1.1780E+16	2.3876E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2745E-02	7.8566E-11	5.2571E+14	1.5816E+09
Y-91	9.3905E-02	3.8291E-09	2.5340E+16	3.4745E+09
Y-92	1.5214E+00	1.5811E-10	1.0350E+15	5.6292E+10
Y-93	8.1048E-02	2.4293E-11	1.5731E+14	2.9988E+09
Zr-95	1.1859E-01	5.5200E-09	3.4992E+16	4.3877E+09
Zr-97	9.8977E-02	5.1775E-11	3.2144E+14	3.6622E+09
Nb-95	1.1967E-01	3.0604E-09	1.9400E+16	4.4278E+09
Mo-99	1.5705E+00	3.2745E-09	1.9919E+16	5.8109E+10
Tc-99m	1.4280E+00	2.7157E-10	1.6520E+15	5.2835E+10
Ru-103	1.3844E+00	4.2895E-08	2.5080E+17	5.1223E+10
Ru-105	5.4698E-01	8.1371E-11	4.6669E+14	2.0238E+10
Ru-106	6.0888E-01	1.8199E-07	1.0340E+18	2.2528E+10
Rh-105	9.0996E-01	1.0781E-09	6.1832E+15	3.3669E+10
Sb-127	1.8538E+00	6.9417E-09	3.2916E+16	6.8590E+10
Sb-129	3.0910E+00	5.4967E-10	2.5660E+15	1.1437E+11
Te-127	1.8749E+00	7.1045E-10	3.3688E+15	6.9373E+10
Te-127m	2.5656E-01	2.7199E-08	1.2897E+17	9.4926E+09
Te-129	3.6976E+00	1.7656E-10	8.2424E+14	1.3681E+11
Te-129m	8.3129E-01	2.7595E-08	1.2882E+17	3.0758E+10
Te-131m	2.2985E+00	2.8825E-09	1.3251E+16	8.5044E+10
Te-132	2.3830E+01	7.8493E-08	3.5810E+17	8.8170E+11
I-131	9.4081E+02	7.5887E-06	3.4886E+19	3.4810E+13
I-132	2.1839E+02	2.1158E-08	9.6527E+16	8.0806E+12
I-133	1.0319E+03	9.1091E-07	4.1245E+18	3.8180E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.4519E+02	1.2677E-07	5.6549E+17	1.6472E+13
Xe-133	3.1771E+06	1.6973E-02	7.6854E+22	1.1755E+17
Xe-135	3.5113E+05	1.3750E-04	6.1335E+20	1.2992E+16
Cs-134	2.7941E+01	2.1595E-05	9.7053E+19	1.0338E+12
Cs-136	6.7691E+00	9.2360E-08	4.0897E+17	2.5046E+11
Cs-137	1.7743E+01	2.0398E-04	8.9665E+20	6.5648E+11
Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2268E+01	1.6757E-07	7.2081E+17	4.5390E+11
La-140	7.8148E-01	1.4060E-09	6.0478E+15	2.8915E+10
La-141	6.0475E-02	1.0693E-11	4.5672E+13	2.2376E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9203E-01	1.0249E-08	4.3775E+16	1.0805E+10
Ce-143	2.4949E-01	3.7569E-10	1.5821E+15	9.2311E+09
Ce-144	2.4353E-01	7.6352E-08	3.1931E+17	9.0104E+09
Pr-143	1.0698E-01	1.5887E-09	6.6906E+15	3.9584E+09
Nd-147	4.6219E-02	5.7132E-10	2.3405E+15	1.7101E+09
Np-239	3.2988E+00	1.4220E-08	3.5830E+16	1.2206E+11
Pu-238	1.3568E-03	7.9253E-08	2.0054E+17	5.0201E+07
Pu-239	8.0424E-05	1.2939E-06	3.2602E+18	2.9757E+06
Pu-240	8.1019E-05	3.5555E-07	8.9216E+17	2.9977E+06
Pu-241	4.8294E-02	4.6882E-07	1.1715E+18	1.7869E+09
Am-241	3.4220E-05	9.9703E-09	2.4914E+16	1.2661E+06
Cm-242	6.7133E-03	2.0256E-09	5.0406E+15	2.4839E+08
Cm-244	8.6341E-04	1.0672E-08	2.6340E+16	3.1946E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s	
Noble gases (atoms)	6.6827E+23	2.5782E+18	
Elemental I (atoms)	3.0378E+18	1.1720E+13	
Organic I (atoms)	3.1775E+19	1.2259E+14	
Aerosols (kg)	2.3695E-04	9.1414E-10	
Dose Effective (Ci) I-131 (Thyroid)			1.1268E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.2627E+03

Total I (Ci) 2.7017E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7236E+23
Elemental I (atoms)	1.0160E+17	1.3333E+18
Organic I (atoms)	0.0000E+00	1.3049E+19
Aerosols (kg)	1.1973E-03	1.6606E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7216E+23
Elemental I (atoms)	2.1048E+17	1.1617E+18
Organic I (atoms)	0.0000E+00	1.3029E+19
Aerosols (kg)	2.5427E-04	6.2695E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2411E+23
Elemental I (atoms)	1.1051E+17	5.4699E+17
Organic I (atoms)	0.0000E+00	5.8592E+18
Aerosols (kg)	6.6555E-05	8.2006E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4016E+20
Elemental I (atoms)	2.5902E+15	1.3556E+14
Organic I (atoms)	1.1952E+16	1.3020E+14
Aerosols (kg)	2.0334E-07	1.3957E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2782E+19
Elemental I (atoms)	0.0000E+00	7.7304E+14
Organic I (atoms)	0.0000E+00	2.6666E+15
Aerosols (kg)	0.0000E+00	6.6715E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.9119E+20	0.0000E+00
Elemental I (atoms)	9.0096E+14	0.0000E+00
Organic I (atoms)	2.7699E+15	0.0000E+00
Aerosols (kg)	8.0663E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.6640E-01	1.7078E+01	1.4873E+00
Accumulated dose (rem)	1.5942E+01	1.2522E+02	2.0245E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0396E-02	1.2072E-01	1.4078E-02
Accumulated dose (rem)	5.1514E-01	2.7117E+00	6.2467E-01

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6507E-02	2.2740E+00	9.5874E-02
Accumulated dose (rem)	1.3982E+00	5.0865E+01	3.3868E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Kr-85	1.3446E+06	3.4272E+00	2.4281E+25	1.7223E+22
Kr-85m	7.6805E+00	9.3329E-10	6.6122E+15	1.6051E+22
Kr-88	3.9386E-03	3.1410E-13	2.1495E+12	2.5069E+22
Sr-90	2.6638E-15	1.9529E-20	1.3067E+05	2.0051E+18
I-131	2.5082E+04	2.0232E-04	9.3007E+20	6.1408E+20
I-132	2.5111E-08	2.4328E-18	1.1099E+07	3.5654E+20
I-133	2.9581E+03	2.6113E-06	1.1824E+19	7.3140E+20
I-135	2.8759E+00	8.1891E-10	3.6530E+15	4.7648E+20
Xe-133	9.1878E+07	4.9085E-01	2.2225E+24	1.5468E+24
Xe-135	5.0154E+04	1.9640E-05	8.7609E+19	1.2367E+23
Cs-134	7.6660E-14	5.9250E-20	2.6628E+05	5.7809E+19
Cs-137	4.8840E-14	5.6149E-19	2.4682E+06	3.6705E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump
Noble gases (atoms)	2.6504E+25	0.0000E+00
Elemental I (atoms)	3.9918E+02	5.6543E+22
Organic I (atoms)	9.4190E+20	0.0000E+00
Aerosols (kg)	6.5056E-19	5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		9.5070E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		9.6180E-06
Total I (Ci)		2.8043E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6473E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.6928E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6473E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.6928E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8193E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	8.4485E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4726E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	1.5399E+14

Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2755E+11
Elemental I (atoms)	0.0000E+00	7.2634E+05
Organic I (atoms)	0.0000E+00	1.3361E+07
Aerosols (kg)	0.0000E+00	9.2767E-16

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2362E+16	2.1820E+08
Kr-85	4.1670E+04	1.0621E-01	7.5249E+23	1.5418E+15
Kr-85m	4.1537E+04	5.0473E-06	3.5760E+19	1.5369E+15
Kr-87	8.8940E+03	3.1399E-07	2.1735E+18	3.2908E+14
Kr-88	5.5991E+04	4.4653E-06	3.0557E+19	2.0717E+15
Rb-86	2.2468E-01	2.7613E-09	1.9336E+16	8.3133E+09
Sr-89	6.9818E+00	2.4032E-07	1.6261E+18	2.5833E+11
Sr-90	9.6604E-01	7.0820E-06	4.7388E+19	3.5743E+10
Sr-91	6.4529E+00	1.7801E-09	1.1780E+16	2.3876E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2751E-02	7.8577E-11	5.2578E+14	1.5818E+09
Y-91	9.3906E-02	3.8292E-09	2.5340E+16	3.4745E+09
Y-92	1.5214E+00	1.5811E-10	1.0350E+15	5.6292E+10
Y-93	8.1048E-02	2.4293E-11	1.5731E+14	2.9988E+09
Zr-95	1.1859E-01	5.5201E-09	3.4992E+16	4.3877E+09
Zr-97	9.8977E-02	5.1775E-11	3.2144E+14	3.6622E+09
Nb-95	1.1967E-01	3.0604E-09	1.9400E+16	4.4278E+09
Mo-99	1.5705E+00	3.2745E-09	1.9919E+16	5.8109E+10
Tc-99m	1.4280E+00	2.7157E-10	1.6520E+15	5.2835E+10
Ru-103	1.3844E+00	4.2896E-08	2.5080E+17	5.1223E+10
Ru-105	5.4698E-01	8.1371E-11	4.6669E+14	2.0238E+10
Ru-106	6.0888E-01	1.8200E-07	1.0340E+18	2.2529E+10
Rh-105	9.0997E-01	1.0781E-09	6.1832E+15	3.3669E+10
Sb-127	1.8538E+00	6.9417E-09	3.2916E+16	6.8591E+10
Sb-129	3.0910E+00	5.4967E-10	2.5660E+15	1.1437E+11
Te-127	1.8750E+00	7.1045E-10	3.3688E+15	6.9373E+10
Te-127m	2.5656E-01	2.7199E-08	1.2898E+17	9.4927E+09
Te-129	3.6976E+00	1.7656E-10	8.2424E+14	1.3681E+11
Te-129m	8.3130E-01	2.7595E-08	1.2882E+17	3.0758E+10
Te-131m	2.2985E+00	2.8825E-09	1.3251E+16	8.5044E+10
Te-132	2.3830E+01	7.8493E-08	3.5810E+17	8.8171E+11
I-131	1.1150E+03	8.9938E-06	4.1345E+19	4.1255E+13
I-132	2.1840E+02	2.1158E-08	9.6529E+16	8.0808E+12
I-133	1.0616E+03	9.3712E-07	4.2432E+18	3.9278E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.4527E+02	1.2679E-07	5.6559E+17	1.6475E+13
Xe-133	3.8297E+06	2.0460E-02	9.2640E+22	1.4170E+17
Xe-135	3.5205E+05	1.3786E-04	6.1495E+20	1.3026E+16
Cs-134	2.7941E+01	2.1596E-05	9.7054E+19	1.0338E+12
Cs-136	6.7692E+00	9.2360E-08	4.0898E+17	2.5046E+11
Cs-137	1.7743E+01	2.0398E-04	8.9666E+20	6.5649E+11
Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2268E+01	1.6757E-07	7.2082E+17	4.5391E+11
La-140	7.8156E-01	1.4061E-09	6.0484E+15	2.8918E+10
La-141	6.0475E-02	1.0693E-11	4.5672E+13	2.2376E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9204E-01	1.0249E-08	4.3775E+16	1.0805E+10
Ce-143	2.4949E-01	3.7569E-10	1.5821E+15	9.2311E+09
Ce-144	2.4353E-01	7.6353E-08	3.1931E+17	9.0105E+09
Pr-143	1.0698E-01	1.5888E-09	6.6907E+15	3.9584E+09
Nd-147	4.6219E-02	5.7132E-10	2.3405E+15	1.7101E+09
Np-239	3.2988E+00	1.4220E-08	3.5830E+16	1.2206E+11

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Pu-238                 1.3568E-03  7.9254E-08  2.0054E+17  5.0202E+07
Pu-239                 8.0424E-05  1.2939E-06  3.2603E+18  2.9757E+06
Pu-240                 8.1020E-05  3.5556E-07  8.9217E+17  2.9977E+06
Pu-241                 4.8295E-02  4.6882E-07  1.1715E+18  1.7869E+09
Am-241                 3.4220E-05  9.9704E-09  2.4914E+16  1.2661E+06
Cm-242                 6.7134E-03  2.0256E-09  5.0407E+15  2.4840E+08
Cm-244                 8.6342E-04  1.0672E-08  2.6340E+16  3.1947E+07

Environment Transport Group Inventory:

                         Total      Release
Time (h) =  96.0000     Release     Rate/s
Noble gases (atoms)    8.4581E+23  2.4474E+18
Elemental I (atoms)    3.0378E+18  8.7901E+12
Organic I (atoms)      3.8353E+19  1.1098E+14
Aerosols (kg)          2.3695E-04  6.8561E-10
Dose Effective (Ci) I-131 (Thyroid)            1.3060E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      1.4448E+03
Total I  (Ci)                                  2.9057E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.4347E+23
Elemental I (atoms)    1.0160E+17  1.3333E+18
Organic I (atoms)      0.0000E+00  1.5693E+19
Aerosols (kg)          1.1973E-03  1.6606E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.4327E+23
Elemental I (atoms)    2.1048E+17  1.1617E+18
Organic I (atoms)      0.0000E+00  1.5673E+19
Aerosols (kg)          2.5427E-04  6.2695E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5953E+23
Elemental I (atoms)    1.1058E+17  5.4701E+17
Organic I (atoms)      0.0000E+00  7.1763E+18
Aerosols (kg)          6.6571E-05  8.2027E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8483E+20
Elemental I (atoms)    2.5902E+15  1.3556E+14
Organic I (atoms)      1.3596E+16  1.4681E+14
Aerosols (kg)          2.0334E-07  1.3957E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.2583E+19
Elemental I (atoms)    0.0000E+00  7.7305E+14
Organic I (atoms)      0.0000E+00  3.0310E+15
Aerosols (kg)          0.0000E+00  6.6715E-08

Control Room Exhaust to Environment Transport Group Inventory:
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                          Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    3.4567E+20  0.0000E+00
Elemental I (atoms)    9.0096E+14  0.0000E+00
Organic I (atoms)      3.1511E+15  0.0000E+00
Aerosols (kg)          8.0663E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6302E+00  7.3233E+01  5.8606E+00
Accumulated dose (rem)  1.9572E+01  1.9845E+02  2.6106E+01

Low Population Zone Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.9216E-03  1.3153E-01  1.3927E-02
Accumulated dose (rem)  5.2506E-01  2.8432E+00  6.3859E-01

Control Room Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4816E-02  5.3666E+00  2.1826E-01
Accumulated dose (rem)  1.4530E+00  5.6231E+01  3.6051E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000       Ci           kg         Atoms      Decay
Kr-85                  1.2908E+06  3.2901E+00  2.3310E+25  4.2491E+22
Kr-85m                 1.5566E-09  1.8914E-19  1.3401E+06  1.6051E+22
Sr-90                  2.6628E-15  1.9521E-20  1.3062E+05  2.0051E+18
I-131                  1.4370E+04  1.1591E-04  5.3285E+20  9.8291E+20
I-133                  2.3426E+01  2.0679E-08  9.3635E+16  7.4303E+20
I-135                  7.6475E-07  2.1776E-16  9.7140E+08  4.7649E+20
Xe-133                 3.9957E+07  2.1347E-01  9.6656E+23  2.7427E+24
Xe-135                 8.2094E-01  3.2147E-10  1.4340E+15  1.2376E+23
Cs-134                 7.6238E-14  5.8924E-20  2.6481E+05  5.7809E+19
Cs-137                 4.8821E-14  5.6128E-19  2.4672E+06  3.6705E+19

Sprayed Drywell Transport Group Inventory:
Time (h) = 240.0000    Atmosphere     Sump
Noble gases (atoms)    2.4277E+25  0.0000E+00
Elemental I (atoms)    2.3500E+02  5.6543E+22
Organic I (atoms)      5.3294E+20  0.0000E+00
Aerosols (kg)          6.4898E-19  5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.3433E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.3442E-06
Total I (Ci)                                   1.4394E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6747E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  2.8338E+19
Aerosols (kg)          0.0000E+00  1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6747E+23
Elemental I (atoms)    0.0000E+00  1.4926E+18
Organic I (atoms)      0.0000E+00  2.8338E+19
Aerosols (kg)          0.0000E+00  1.3613E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8216E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	1.4121E+19
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.3055E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	2.9090E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9700E+12
Elemental I (atoms)	0.0000E+00	1.3945E+06
Organic I (atoms)	0.0000E+00	5.8296E+07
Aerosols (kg)	0.0000E+00	2.3311E-15

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	9.4155E+04	2.3999E-01	1.7003E+24	3.4837E+15
Kr-85m	4.1537E+04	5.0473E-06	3.5760E+19	1.5369E+15
Kr-87	8.8940E+03	3.1399E-07	2.1735E+18	3.2908E+14
Kr-88	5.5991E+04	4.4653E-06	3.0557E+19	2.0717E+15
Rb-86	2.2468E-01	2.7614E-09	1.9336E+16	8.3133E+09
Sr-89	6.9818E+00	2.4032E-07	1.6261E+18	2.5833E+11
Sr-90	9.6604E-01	7.0820E-06	4.7388E+19	3.5743E+10
Sr-91	6.4529E+00	1.7801E-09	1.1780E+16	2.3876E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2751E-02	7.8578E-11	5.2579E+14	1.5818E+09
Y-91	9.3906E-02	3.8292E-09	2.5340E+16	3.4745E+09
Y-92	1.5214E+00	1.5811E-10	1.0350E+15	5.6292E+10
Y-93	8.1048E-02	2.4293E-11	1.5731E+14	2.9988E+09
Zr-95	1.1859E-01	5.5201E-09	3.4992E+16	4.3877E+09
Zr-97	9.8977E-02	5.1775E-11	3.2144E+14	3.6622E+09
Nb-95	1.1967E-01	3.0604E-09	1.9400E+16	4.4278E+09
Mo-99	1.5705E+00	3.2745E-09	1.9919E+16	5.8109E+10
Tc-99m	1.4280E+00	2.7157E-10	1.6520E+15	5.2836E+10
Ru-103	1.3844E+00	4.2896E-08	2.5080E+17	5.1223E+10
Ru-105	5.4698E-01	8.1371E-11	4.6669E+14	2.0238E+10
Ru-106	6.0888E-01	1.8200E-07	1.0340E+18	2.2529E+10
Rh-105	9.0997E-01	1.0781E-09	6.1832E+15	3.3669E+10
Sb-127	1.8538E+00	6.9417E-09	3.2916E+16	6.8591E+10
Sb-129	3.0910E+00	5.4967E-10	2.5660E+15	1.1437E+11
Te-127	1.8750E+00	7.1045E-10	3.3688E+15	6.9373E+10
Te-127m	2.5656E-01	2.7199E-08	1.2898E+17	9.4927E+09
Te-129	3.6976E+00	1.7656E-10	8.2424E+14	1.3681E+11
Te-129m	8.3130E-01	2.7595E-08	1.2882E+17	3.0758E+10
Te-131m	2.2985E+00	2.8825E-09	1.3251E+16	8.5044E+10
Te-132	2.3830E+01	7.8493E-08	3.5810E+17	8.8171E+11
I-131	1.8797E+03	1.5162E-05	6.9701E+19	6.9550E+13
I-132	2.1840E+02	2.1158E-08	9.6529E+16	8.0808E+12
I-133	1.0853E+03	9.5810E-07	4.3382E+18	4.0158E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.4528E+02	1.2679E-07	5.6560E+17	1.6475E+13

Xe-133	6.3068E+06	3.3694E-02	1.5256E+23	2.3335E+17
Xe-135	3.5222E+05	1.3792E-04	6.1526E+20	1.3032E+16
Cs-134	2.7941E+01	2.1596E-05	9.7054E+19	1.0338E+12
Cs-136	6.7692E+00	9.2361E-08	4.0898E+17	2.5046E+11
Cs-137	1.7743E+01	2.0398E-04	8.9666E+20	6.5649E+11
Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2268E+01	1.6757E-07	7.2082E+17	4.5391E+11
La-140	7.8157E-01	1.4061E-09	6.0485E+15	2.8918E+10
La-141	6.0475E-02	1.0693E-11	4.5672E+13	2.2376E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9204E-01	1.0249E-08	4.3775E+16	1.0805E+10
Ce-143	2.4949E-01	3.7569E-10	1.5821E+15	9.2311E+09
Ce-144	2.4353E-01	7.6353E-08	3.1931E+17	9.0105E+09
Pr-143	1.0698E-01	1.5888E-09	6.6907E+15	3.9584E+09
Nd-147	4.6219E-02	5.7132E-10	2.3405E+15	1.7101E+09
Np-239	3.2988E+00	1.4220E-08	3.5830E+16	1.2206E+11
Pu-238	1.3568E-03	7.9254E-08	2.0054E+17	5.0202E+07
Pu-239	8.0425E-05	1.2939E-06	3.2603E+18	2.9757E+06
Pu-240	8.1020E-05	3.5556E-07	8.9217E+17	2.9977E+06
Pu-241	4.8295E-02	4.6882E-07	1.1715E+18	1.7869E+09
Am-241	3.4220E-05	9.9704E-09	2.4914E+16	1.2661E+06
Cm-242	6.7134E-03	2.0256E-09	5.0407E+15	2.4840E+08
Cm-244	8.6342E-04	1.0672E-08	2.6340E+16	3.1947E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.8535E+24	2.1453E+18
Elemental I (atoms)	3.0378E+18	3.5160E+12
Organic I (atoms)	6.6805E+19	7.7320E+13
Aerosols (kg)	2.3695E-04	2.7425E-10

Dose Effective (Ci) I-131 (Thyroid)	2.0746E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.2159E+03
Total I (Ci)	3.6942E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4697E+23
Elemental I (atoms)	1.0160E+17	1.3333E+18
Organic I (atoms)	0.0000E+00	2.7124E+19
Aerosols (kg)	1.1973E-03	1.6606E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4678E+23
Elemental I (atoms)	2.1048E+17	1.1617E+18
Organic I (atoms)	0.0000E+00	2.7104E+19
Aerosols (kg)	2.5427E-04	6.2695E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6056E+23
Elemental I (atoms)	1.1058E+17	5.4701E+17
Organic I (atoms)	0.0000E+00	1.2871E+19
Aerosols (kg)	6.6573E-05	8.2030E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported

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Noble gases (atoms)    0.0000E+00  4.9377E+20
Elemental I (atoms)    2.5902E+15  1.3556E+14
Organic I (atoms)      1.9457E+16  2.0601E+14
Aerosols (kg)          2.0334E-07  1.3957E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0844E+20
Elemental I (atoms)    0.0000E+00  7.7305E+14
Organic I (atoms)      0.0000E+00  4.3300E+15
Aerosols (kg)          0.0000E+00  6.6715E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    6.0074E+20  0.0000E+00
Elemental I (atoms)    9.0096E+14  0.0000E+00
Organic I (atoms)      4.5110E+15  0.0000E+00
Aerosols (kg)          8.0663E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6364E+00  8.2459E+01  5.1469E+00
Accumulated dose (rem)  2.2208E+01  2.8091E+02  3.1253E+01

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.2056E-03  1.4810E-01  1.1714E-02
Accumulated dose (rem)  5.3227E-01  2.9913E+00  6.5031E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9687E-02  6.0340E+00  2.2339E-01
Accumulated dose (rem)  1.4927E+00  6.2265E+01  3.8285E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000       Ci           kg         Atoms      Decay
Kr-85                  1.1267E+06  2.8717E+00  2.0346E+25  1.1964E+23
Sr-90                  2.6593E-15  1.9495E-20  1.3045E+05  2.0051E+18
I-131                  2.2444E+03  1.8103E-05  8.3222E+19  1.4004E+21
I-133                  2.3191E-06  2.0472E-15  9.2695E+09  7.4313E+20
Xe-133                 2.4899E+06  1.3302E-02  6.0231E+22  3.6056E+24
Cs-134                 7.4847E-14  5.7849E-20  2.5998E+05  5.7809E+19
Cs-137                 4.8760E-14  5.6057E-19  2.4641E+06  3.6705E+19

Sprayed Drywell Transport Group Inventory:
Time (h) = 720.0000    Atmosphere     Sump
Noble gases (atoms)    2.0406E+25  0.0000E+00
Elemental I (atoms)    4.1890E+01  5.6543E+22
Organic I (atoms)      8.3222E+19  0.0000E+00
Aerosols (kg)          6.4577E-19  5.1152E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         8.3430E-07
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.3430E-07
Total I (Ci)                                   2.2444E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9411E+24
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Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	4.1208E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9411E+24
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	4.1208E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6561E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	2.0519E+19
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2389E+19
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	4.4535E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6256E+13
Elemental I (atoms)	0.0000E+00	2.2021E+06
Organic I (atoms)	0.0000E+00	1.9271E+08
Aerosols (kg)	0.0000E+00	6.9912E-15

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	2.5441E+05	6.4846E-01	4.5942E+24	9.4133E+15
Kr-85m	4.1537E+04	5.0473E-06	3.5760E+19	1.5369E+15
Kr-87	8.8940E+03	3.1399E-07	2.1735E+18	3.2908E+14
Kr-88	5.5991E+04	4.4653E-06	3.0557E+19	2.0717E+15
Rb-86	2.2468E-01	2.7614E-09	1.9336E+16	8.3133E+09
Sr-89	6.9818E+00	2.4032E-07	1.6261E+18	2.5833E+11
Sr-90	9.6604E-01	7.0820E-06	4.7388E+19	3.5743E+10
Sr-91	6.4529E+00	1.7801E-09	1.1780E+16	2.3876E+11
Sr-92	3.8141E+00	3.0344E-10	1.9863E+15	1.4112E+11
Y-90	4.2751E-02	7.8578E-11	5.2579E+14	1.5818E+09
Y-91	9.3906E-02	3.8292E-09	2.5340E+16	3.4745E+09
Y-92	1.5214E+00	1.5811E-10	1.0350E+15	5.6292E+10
Y-93	8.1048E-02	2.4293E-11	1.5731E+14	2.9988E+09
Zr-95	1.1859E-01	5.5201E-09	3.4992E+16	4.3877E+09
Zr-97	9.8977E-02	5.1775E-11	3.2144E+14	3.6622E+09
Nb-95	1.1967E-01	3.0604E-09	1.9400E+16	4.4278E+09
Mo-99	1.5705E+00	3.2745E-09	1.9919E+16	5.8109E+10
Tc-99m	1.4280E+00	2.7157E-10	1.6520E+15	5.2836E+10
Ru-103	1.3844E+00	4.2896E-08	2.5080E+17	5.1223E+10
Ru-105	5.4698E-01	8.1371E-11	4.6669E+14	2.0238E+10
Ru-106	6.0888E-01	1.8200E-07	1.0340E+18	2.2529E+10
Rh-105	9.0997E-01	1.0781E-09	6.1832E+15	3.3669E+10

Sb-127	1.8538E+00	6.9417E-09	3.2916E+16	6.8591E+10
Sb-129	3.0910E+00	5.4967E-10	2.5660E+15	1.1437E+11
Te-127	1.8750E+00	7.1045E-10	3.3688E+15	6.9373E+10
Te-127m	2.5656E-01	2.7199E-08	1.2898E+17	9.4927E+09
Te-129	3.6976E+00	1.7656E-10	8.2424E+14	1.3681E+11
Te-129m	8.3130E-01	2.7595E-08	1.2882E+17	3.0758E+10
Te-131m	2.2985E+00	2.8825E-09	1.3251E+16	8.5044E+10
Te-132	2.3830E+01	7.8493E-08	3.5810E+17	8.8171E+11
I-131	2.7454E+03	2.2145E-05	1.0180E+20	1.0158E+14
I-132	2.1840E+02	2.1158E-08	9.6529E+16	8.0808E+12
I-133	1.0855E+03	9.5826E-07	4.3389E+18	4.0165E+13
I-134	6.5445E+01	2.4532E-09	1.1025E+16	2.4214E+12
I-135	4.4528E+02	1.2679E-07	5.6560E+17	1.6475E+13
Xe-133	8.0944E+06	4.3244E-02	1.9580E+23	2.9949E+17
Xe-135	3.5222E+05	1.3792E-04	6.1526E+20	1.3032E+16
Cs-134	2.7941E+01	2.1596E-05	9.7054E+19	1.0338E+12
Cs-136	6.7692E+00	9.2361E-08	4.0898E+17	2.5046E+11
Cs-137	1.7743E+01	2.0398E-04	8.9666E+20	6.5649E+11
Ba-139	2.7558E+00	1.6848E-10	7.2994E+14	1.0197E+11
Ba-140	1.2268E+01	1.6757E-07	7.2082E+17	4.5391E+11
La-140	7.8157E-01	1.4061E-09	6.0485E+15	2.8918E+10
La-141	6.0475E-02	1.0693E-11	4.5672E+13	2.2376E+09
La-142	2.7499E-02	1.9210E-12	8.1467E+12	1.0175E+09
Ce-141	2.9204E-01	1.0249E-08	4.3775E+16	1.0805E+10
Ce-143	2.4949E-01	3.7569E-10	1.5821E+15	9.2311E+09
Ce-144	2.4353E-01	7.6353E-08	3.1931E+17	9.0105E+09
Pr-143	1.0698E-01	1.5888E-09	6.6907E+15	3.9584E+09
Nd-147	4.6219E-02	5.7132E-10	2.3405E+15	1.7101E+09
Np-239	3.2988E+00	1.4220E-08	3.5830E+16	1.2206E+11
Pu-238	1.3568E-03	7.9254E-08	2.0054E+17	5.0202E+07
Pu-239	8.0425E-05	1.2939E-06	3.2603E+18	2.9757E+06
Pu-240	8.1020E-05	3.5556E-07	8.9217E+17	2.9977E+06
Pu-241	4.8295E-02	4.6882E-07	1.1715E+18	1.7869E+09
Am-241	3.4220E-05	9.9704E-09	2.4914E+16	1.2661E+06
Cm-242	6.7134E-03	2.0256E-09	5.0407E+15	2.4840E+08
Cm-244	8.6342E-04	1.0672E-08	2.6340E+16	3.1947E+07

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s	
Noble gases (atoms)	4.7907E+24	1.8483E+18	
Elemental I (atoms)	3.0378E+18	1.1720E+12	
Organic I (atoms)	9.8904E+19	3.8157E+13	
Aerosols (kg)	2.3695E-04	9.1415E-11	
Dose Effective (Ci) I-131 (Thyroid)			2.9403E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			3.0816E+03
Total I (Ci)			4.5600E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9228E+24
Elemental I (atoms)	1.0160E+17	1.3333E+18
Organic I (atoms)	0.0000E+00	4.0019E+19
Aerosols (kg)	1.1973E-03	1.6606E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9226E+24
Elemental I (atoms)	2.1048E+17	1.1617E+18
Organic I (atoms)	0.0000E+00	4.0000E+19
Aerosols (kg)	2.5427E-04	6.2695E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4635E+23
Elemental I (atoms)	1.1058E+17	5.4701E+17
Organic I (atoms)	0.0000E+00	1.9295E+19
Aerosols (kg)	6.6573E-05	8.2030E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1027E+21
Elemental I (atoms)	2.5902E+15	1.3556E+14
Organic I (atoms)	2.6067E+16	2.7278E+14
Aerosols (kg)	2.0334E-07	1.3957E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4205E+20
Elemental I (atoms)	0.0000E+00	7.7305E+14
Organic I (atoms)	0.0000E+00	5.7953E+15
Aerosols (kg)	0.0000E+00	6.6715E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.3434E+21	0.0000E+00
Elemental I (atoms)	9.0096E+14	0.0000E+00
Organic I (atoms)	6.0433E+15	0.0000E+00
Aerosols (kg)	8.0663E-08	0.0000E+00

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#####################################################################
                              I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5275E+03	0.0000E+00	0.0000E+00
0.033	2.7135E+05	0.0000E+00	0.0000E+00
0.167	1.3576E+06	3.9790E+01	3.9477E+01
0.500	5.5313E+05	1.1429E+02	1.1009E+02
0.667	8.8246E+05	1.5207E+02	1.4508E+02
1.000	9.1720E+05	2.3343E+02	2.1879E+02
1.160	9.2016E+05	2.6845E+02	2.4937E+02
1.410	9.2449E+05	3.1815E+02	2.9148E+02
1.660	9.2879E+05	3.6236E+02	3.2757E+02
1.910	9.3308E+05	4.0173E+02	3.5857E+02
2.000	9.3462E+05	4.1483E+02	3.6864E+02
2.200	8.0958E+04	4.0449E+02	3.5454E+02
2.250	5.7367E+04	3.9927E+02	3.4847E+02
2.300	4.6222E+04	3.9394E+02	3.4234E+02
2.350	4.0955E+04	3.8861E+02	3.3624E+02
2.700	3.6220E+04	3.5298E+02	2.9626E+02
3.000	3.6151E+04	3.2519E+02	2.6599E+02
3.300	3.6106E+04	2.9976E+02	2.3905E+02
3.600	3.6061E+04	2.7650E+02	2.1506E+02
3.900	3.6016E+04	2.5522E+02	1.9370E+02
4.000	3.6001E+04	2.4854E+02	1.8711E+02
4.300	3.5956E+04	2.2963E+02	1.6882E+02
4.600	3.5912E+04	2.1234E+02	1.5253E+02

4.900	3.5867E+04	1.9652E+02	1.3802E+02
5.200	3.5822E+04	1.8204E+02	1.2511E+02
5.500	3.5778E+04	1.6879E+02	1.1361E+02
5.800	3.5733E+04	1.5667E+02	1.0337E+02
6.100	3.5689E+04	1.4558E+02	9.4248E+01
6.400	3.5645E+04	1.3543E+02	8.6128E+01
6.700	3.5600E+04	1.2614E+02	7.8896E+01
7.000	3.5556E+04	1.1764E+02	7.2455E+01
7.300	3.5512E+04	1.0987E+02	6.6719E+01
7.600	3.5468E+04	1.0275E+02	6.1610E+01
7.900	3.5424E+04	9.6236E+01	5.7059E+01
8.000	3.5409E+04	9.4190E+01	5.5655E+01
8.300	3.5365E+04	8.8403E+01	5.1754E+01
8.600	3.5321E+04	8.3105E+01	4.8278E+01
8.900	3.5277E+04	7.8256E+01	4.5181E+01
9.200	3.5234E+04	7.3818E+01	4.2422E+01
9.500	3.5190E+04	6.9755E+01	3.9962E+01
9.800	3.5146E+04	6.6035E+01	3.7770E+01
10.100	3.5102E+04	6.2630E+01	3.5816E+01
10.400	3.5059E+04	5.9512E+01	3.4074E+01
24.000	3.3138E+04	2.5531E+01	1.9116E+01
48.000	3.0200E+04	2.2837E+01	1.7423E+01
72.000	2.7522E+04	2.0800E+01	1.5879E+01
96.000	2.5082E+04	1.8956E+01	1.4471E+01
240.000	1.4370E+04	1.0860E+01	8.2905E+00
720.000	2.2444E+03	1.6962E+00	1.2948E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.3659E-01	2.0061E+01	4.6808E-02
0.500	3.8341E+00	5.9831E+01	6.2229E-01
0.667	5.9288E+00	8.0631E+01	1.0341E+00
1.000	1.1113E+01	1.2675E+02	2.1702E+00
1.160	1.3811E+01	1.4754E+02	2.8354E+00
1.410	1.8000E+01	1.7821E+02	3.9849E+00
1.660	2.1993E+01	2.0679E+02	5.2311E+00
1.910	2.5697E+01	2.3344E+02	6.5407E+00
2.000	2.6953E+01	2.4259E+02	7.0227E+00
2.200	2.8317E+01	2.4080E+02	7.6269E+00
2.250	2.8555E+01	2.3899E+02	7.7655E+00
2.300	2.8751E+01	2.3709E+02	7.8986E+00
2.350	2.8908E+01	2.3518E+02	8.0263E+00
2.700	2.9117E+01	2.2200E+02	8.7813E+00
3.000	2.8425E+01	2.1132E+02	9.2616E+00
3.300	2.7270E+01	2.0122E+02	9.6172E+00
3.600	2.5866E+01	1.9165E+02	9.8710E+00
3.900	2.4354E+01	1.8259E+02	1.0042E+01
4.000	2.3843E+01	1.7968E+02	1.0084E+01
4.300	2.2321E+01	1.7126E+02	1.0168E+01
4.600	2.0852E+01	1.6328E+02	1.0203E+01
4.900	1.9465E+01	1.5573E+02	1.0197E+01
5.200	1.8174E+01	1.4858E+02	1.0160E+01
5.500	1.6985E+01	1.4181E+02	1.0098E+01
5.800	1.5900E+01	1.3540E+02	1.0017E+01
6.100	1.4913E+01	1.2933E+02	9.9215E+00
6.400	1.4021E+01	1.2358E+02	9.8153E+00
6.700	1.3217E+01	1.1814E+02	9.7015E+00
7.000	1.2494E+01	1.1299E+02	9.5826E+00
7.300	1.1845E+01	1.0811E+02	9.4606E+00
7.600	1.1263E+01	1.0349E+02	9.3373E+00
7.900	1.0742E+01	9.9109E+01	9.2139E+00
8.000	1.0581E+01	9.7703E+01	9.1729E+00
8.300	1.0129E+01	9.3633E+01	9.0485E+00
8.600	9.7264E+00	8.9779E+01	8.9265E+00
8.900	9.3666E+00	8.6129E+01	8.8076E+00

9.200	9.0453E+00	8.2672E+01	8.6920E+00
9.500	8.7583E+00	7.9398E+01	8.5799E+00
9.800	8.5019E+00	7.6298E+01	8.4717E+00
10.100	8.2727E+00	7.3361E+01	8.3673E+00
10.400	8.0679E+00	7.0580E+01	8.2668E+00
24.000	6.1266E+00	2.4578E+01	6.3040E+00
48.000	5.5974E+00	1.8993E+01	5.5887E+00
72.000	5.1014E+00	1.6946E+01	5.0749E+00
96.000	4.6491E+00	1.5405E+01	4.6230E+00
240.000	2.6635E+00	8.8228E+00	2.6485E+00
720.000	4.1600E-01	1.3780E+00	4.1365E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6680E-09
0.033	0.0000E+00	0.0000E+00	5.9922E-06
0.167	1.7761E-01	5.7257E-04	1.5009E-04
0.500	2.9305E+00	6.1348E-03	4.6245E-04
0.667	5.3283E+00	9.3598E-03	6.3450E-04
1.000	1.2804E+01	6.9320E-03	1.0352E-03
1.160	1.7718E+01	6.4413E-03	1.2295E-03
1.410	2.7097E+01	6.2524E-03	1.5341E-03
1.660	3.8493E+01	6.5462E-03	1.8399E-03
1.910	5.1830E+01	7.1451E-03	2.1468E-03
2.000	5.7091E+01	7.4110E-03	2.2576E-03
2.200	6.4204E+01	6.6047E-03	2.3410E-03
2.250	6.5991E+01	6.4425E-03	2.3451E-03
2.300	6.7776E+01	6.2928E-03	2.3481E-03
2.350	6.9561E+01	6.1545E-03	2.3505E-03
2.700	8.1944E+01	5.4280E-03	2.3649E-03
3.000	9.2339E+01	5.0266E-03	2.3767E-03
3.300	1.0247E+02	4.7376E-03	2.3886E-03
3.600	1.1232E+02	4.5134E-03	2.4004E-03
3.900	1.2187E+02	4.3275E-03	2.4122E-03
4.000	1.2499E+02	4.2714E-03	2.4161E-03
4.300	1.3415E+02	4.1157E-03	2.4279E-03
4.600	1.4304E+02	3.9748E-03	2.4396E-03
4.900	1.5166E+02	3.8455E-03	2.4513E-03
5.200	1.6004E+02	3.7259E-03	2.4629E-03
5.500	1.6818E+02	3.6153E-03	2.4745E-03
5.800	1.7612E+02	3.5130E-03	2.4861E-03
6.100	1.8386E+02	3.4185E-03	2.4977E-03
6.400	1.9142E+02	3.3315E-03	2.5092E-03
6.700	1.9882E+02	3.2515E-03	2.5207E-03
7.000	2.0607E+02	3.1780E-03	2.5322E-03
7.300	2.1318E+02	3.1107E-03	2.5436E-03
7.600	2.2016E+02	3.0492E-03	2.5551E-03
7.900	2.2704E+02	2.9929E-03	2.5664E-03
8.000	2.2931E+02	2.9752E-03	2.5702E-03
8.300	2.3601E+02	2.2887E-03	2.5816E-03
8.600	2.4262E+02	1.8615E-03	2.5929E-03
8.900	2.4916E+02	1.5937E-03	2.6042E-03
9.200	2.5561E+02	1.4244E-03	2.6154E-03
9.500	2.6200E+02	1.3158E-03	2.6266E-03
9.800	2.6833E+02	1.2449E-03	2.6378E-03
10.100	2.7460E+02	1.1975E-03	2.6490E-03
10.400	2.8082E+02	1.1649E-03	2.6601E-03
24.000	5.4004E+02	9.8602E-04	3.1346E-03
48.000	7.4967E+02	2.9650E-04	3.8417E-03
72.000	9.4081E+02	2.7021E-04	4.4042E-03
96.000	1.1150E+03	2.4626E-04	4.8419E-03
240.000	1.8797E+03	1.1630E-04	5.6868E-03
720.000	2.7454E+03	1.8164E-05	2.5418E-03

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#####################################################################
                        Cumulative Dose Summary
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Time (hr)	Exclusion Area Bounda Thyroid (rem)	TEDE (rem)	Low Population Zone Thyroid (rem)	TEDE (rem)	Control Room Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.3911E-02	1.2145E-03	2.5054E-03	1.2726E-04	2.2179E-02	9.1954E-04
0.500	3.9332E-01	2.1468E-02	4.1212E-02	2.2494E-03	9.2166E-01	3.8006E-02
0.667	7.1484E-01	4.1968E-02	7.4902E-02	4.3975E-03	1.9973E+00	8.2691E-02
1.000	1.7227E+00	1.2968E-01	1.8050E-01	1.3588E-02	4.2191E+00	1.7826E-01
1.160	2.3855E+00	2.0254E-01	2.4996E-01	2.1222E-02	5.1082E+00	2.1891E-01
1.410	3.6501E+00	3.6733E-01	3.8246E-01	3.8489E-02	6.4227E+00	2.8415E-01
1.660	5.1845E+00	6.0300E-01	5.4323E-01	6.3183E-02	7.7526E+00	3.5787E-01
1.910	6.9763E+00	9.1655E-01	7.3098E-01	9.6037E-02	9.1786E+00	4.4536E-01
2.000	7.6819E+00	1.0494E+00	8.0491E-01	1.0995E-01	9.7256E+00	4.8096E-01
2.200	8.6350E+00	1.2380E+00	8.4630E-01	1.1815E-01	1.0893E+01	5.5917E-01
2.250	8.8739E+00	1.2868E+00	8.5668E-01	1.2026E-01	1.1165E+01	5.7767E-01
2.300	9.1125E+00	1.3363E+00	8.6704E-01	1.2241E-01	1.1430E+01	5.9585E-01
2.350	9.3506E+00	1.3864E+00	8.7738E-01	1.2459E-01	1.1690E+01	6.1374E-01
2.700	1.1000E+01	1.7541E+00	9.4899E-01	1.4056E-01	1.3367E+01	7.3320E-01
3.000	1.2377E+01	2.0868E+00	1.0088E+00	1.5501E-01	1.4665E+01	8.3024E-01
3.300	1.3714E+01	2.4303E+00	1.0669E+00	1.6992E-01	1.5873E+01	9.2450E-01
3.600	1.5008E+01	2.7802E+00	1.1231E+00	1.8512E-01	1.7014E+01	1.0168E+00
3.900	1.6258E+01	3.1329E+00	1.1773E+00	2.0043E-01	1.8100E+01	1.1076E+00
4.000	1.6665E+01	3.2506E+00	1.1950E+00	2.0555E-01	1.8451E+01	1.1374E+00
4.300	1.7857E+01	3.6027E+00	1.2468E+00	2.2083E-01	1.9476E+01	1.2260E+00
4.600	1.9008E+01	3.9516E+00	1.2968E+00	2.3599E-01	2.0461E+01	1.3127E+00
4.900	2.0120E+01	4.2955E+00	1.3451E+00	2.5092E-01	2.1410E+01	1.3975E+00
5.200	2.1197E+01	4.6332E+00	1.3918E+00	2.6559E-01	2.2324E+01	1.4803E+00
5.500	2.2240E+01	4.9636E+00	1.4371E+00	2.7993E-01	2.3208E+01	1.5608E+00
5.800	2.3252E+01	5.2859E+00	1.4811E+00	2.9393E-01	2.4062E+01	1.6391E+00
6.100	2.4235E+01	5.5996E+00	1.5238E+00	3.0755E-01	2.4889E+01	1.7151E+00
6.400	2.5192E+01	5.9044E+00	1.5653E+00	3.2079E-01	2.5692E+01	1.7888E+00
6.700	2.6125E+01	6.2002E+00	1.6058E+00	3.3364E-01	2.6472E+01	1.8602E+00
7.000	2.7036E+01	6.4869E+00	1.6454E+00	3.4608E-01	2.7232E+01	1.9294E+00
7.300	2.7927E+01	6.7644E+00	1.6841E+00	3.5814E-01	2.7972E+01	1.9964E+00
7.600	2.8799E+01	7.0330E+00	1.7220E+00	3.6980E-01	2.8694E+01	2.0613E+00
7.900	2.9655E+01	7.2928E+00	1.7591E+00	3.8108E-01	2.9400E+01	2.1241E+00
8.000	2.9936E+01	7.3775E+00	1.7713E+00	3.8476E-01	2.9632E+01	2.1446E+00
8.300	3.0767E+01	7.6258E+00	1.7833E+00	3.9129E-01	3.0239E+01	2.1977E+00
8.600	3.1584E+01	7.8658E+00	1.7950E+00	3.9760E-01	3.0717E+01	2.2389E+00
8.900	3.2388E+01	8.0979E+00	1.8066E+00	4.0370E-01	3.1115E+01	2.2726E+00
9.200	3.3181E+01	8.3223E+00	1.8180E+00	4.0960E-01	3.1462E+01	2.3017E+00
9.500	3.3963E+01	8.5393E+00	1.8293E+00	4.1530E-01	3.1776E+01	2.3277E+00
9.800	3.4736E+01	8.7493E+00	1.8404E+00	4.2080E-01	3.2069E+01	2.3517E+00
10.100	3.5499E+01	8.9525E+00	1.8514E+00	4.2613E-01	3.2348E+01	2.3742E+00
10.400	3.6254E+01	9.1492E+00	1.8622E+00	4.3128E-01	3.2617E+01	2.3956E+00
24.000	6.6407E+01	1.4591E+01	2.2959E+00	5.7048E-01	4.2828E+01	3.0311E+00
48.000	8.8847E+01	1.7001E+01	2.4545E+00	5.9386E-01	4.6021E+01	3.1804E+00
72.000	1.0814E+02	1.8758E+01	2.5909E+00	6.1059E-01	4.8591E+01	3.2910E+00
96.000	1.2522E+02	2.0245E+01	2.7117E+00	6.2467E-01	5.0865E+01	3.3868E+00
240.000	1.9845E+02	2.6106E+01	2.8432E+00	6.3859E-01	5.6231E+01	3.6051E+00
720.000	2.8091E+02	3.1253E+01	2.9913E+00	6.5031E-01	6.2265E+01	3.8285E+00

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
3.0	1.9597E+00	8.1021E+00	2.3213E+00

Attachment 12.6b - RADTRAD Nuclide Inventory File "DQ39GWD_DEF.txt" (Westinghouse Fuel)

```
Nuclide Inventory Name: Dresden/Quad NIF File - 39 GWD/MTU Burnup
 Normalized MACCS Sample 3578 MWth BWR Core Inventory
 Power Level:
  0.1000E+01
 Nuclides:
  60
 Nuclide 001:
 Co-58
   7
  0.6117120000E+07
  0.5800E+02
  0.1529E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 002:
 Co-60
   7
  0.1663401096E+09
  0.6000E+02
  0.1830E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 003:
 Kr-85
   1
  0.3382974720E+09
  0.8500E+02
  0.4609E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 004:
 Kr-85m
   1
  0.1612800000E+05
  0.8500E+02
  0.7427E+04
 Kr-85    0.2100E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 005:
 Kr-87
   1
  0.4578000000E+04
  0.8700E+02
  0.1436E+05
 Rb-87    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 006:
 Kr-88
   1
  0.1022400000E+05
  0.8800E+02
  0.2022E+05
 Rb-88    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 007:
 Rb-86
   3
  0.1612224000E+07
```

```
 0.8600E+02
 0.6465E+02
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 008:
Sr-89
  5
 0.4363200000E+07
 0.8900E+02
 0.2715E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 009:
Sr-90
  5
 0.9189573120E+09
 0.9000E+02
 0.3747E+04
Y-90     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 010:
Sr-91
  5
 0.3420000000E+05
 0.9100E+02
 0.3382E+05
Y-91m    0.5800E+00
Y-91     0.4200E+00
none     0.0000E+00
Nuclide 011:
Sr-92
  5
 0.9756000000E+04
 0.9200E+02
 0.3647E+05
Y-92     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 012:
Y-90
  9
 0.2304000000E+06
 0.9000E+02
 0.3846E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 013:
Y-91
  9
 0.5055264000E+07
 0.9100E+02
 0.3481E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 014:
Y-92
  9
 0.1274400000E+05
 0.9200E+02
 0.3647E+05
none     0.0000E+00
none     0.0000E+00
```

```
none     0.0000E+00
Nuclide 015:
Y-93
  9
 0.3636000000E+05
 0.9300E+02
 0.4178E+05
Zr-93    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 016:
Zr-95
  9
 0.5527872000E+07
 0.9500E+02
 0.4609E+05
Nb-95m   0.7000E-02
Nb-95    0.9900E+00
none     0.0000E+00
Nuclide 017:
Zr-97
  9
 0.6084000000E+05
 0.9700E+02
 0.4575E+05
Nb-97m   0.9500E+00
Nb-97    0.5300E-01
none     0.0000E+00
Nuclide 018:
Nb-95
  9
 0.3036960000E+07
 0.9500E+02
 0.4642E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 019:
Mo-99
  7
 0.2376000000E+06
 0.9900E+02
 0.5106E+05
Tc-99m   0.8800E+00
Tc-99    0.1200E+00
none     0.0000E+00
Nuclide 020:
Tc-99m
  7
 0.2167200000E+05
 0.9900E+02
 0.4476E+05
Tc-99    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 021:
Ru-103
  7
 0.3393792000E+07
 0.1030E+03
 0.4310E+05
Rh-103m  0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 022:
Ru-105
  7
```

```
 0.1598400000E+05
 0.1050E+03
 0.3077E+05
Rh-105   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 023:
Ru-106
  7
 0.3181248000E+08
 0.1060E+03
 0.1890E+05
Rh-106   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 024:
Rh-105
  7
 0.1272960000E+06
 0.1050E+03
 0.2901E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 025:
Sb-127
  4
 0.3326400000E+06
 0.1270E+03
 0.2974E+04
Te-127m  0.1800E+00
Te-127   0.8200E+00
none     0.0000E+00
Nuclide 026:
Sb-129
  4
 0.1555200000E+05
 0.1290E+03
 0.8819E+04
Te-129m  0.2200E+00
Te-129   0.7700E+00
none     0.0000E+00
Nuclide 027:
Te-127
  4
 0.3366000000E+05
 0.1270E+03
 0.2957E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 028:
Te-127m
  4
 0.9417600000E+07
 0.1270E+03
 0.3979E+03
Te-127   0.9800E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 029:
Te-129
  4
 0.4176000000E+04
 0.1290E+03
 0.8687E+04
I-129    0.1000E+01
```

```
none     0.0000E+00
none     0.0000E+00
Nuclide 030:
Te-129m
  4
 0.2903040000E+07
 0.1290E+03
 0.1290E+04
Te-129   0.6500E+00
I-129    0.3500E+00
none     0.0000E+00
Nuclide 031:
Te-131m
  4
 0.1080000000E+06
 0.1310E+03
 0.3945E+04
Te-131   0.2200E+00
I-131    0.7800E+00
none     0.0000E+00
Nuclide 032:
Te-132
  4
 0.2815200000E+06
 0.1320E+03
 0.3846E+05
I-132    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 033:
I-131
  2
 0.6946560000E+06
 0.1310E+03
 0.2702E+05
Xe-131m  0.1100E-01
none     0.0000E+00
none     0.0000E+00
Nuclide 034:
I-132
  2
 0.8280000000E+04
 0.1320E+03
 0.3912E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 035:
I-133
  2
 0.7488000000E+05
 0.1330E+03
 0.5537E+05
Xe-133m  0.2900E-01
Xe-133   0.9700E+00
none     0.0000E+00
Nuclide 036:
I-134
  2
 0.3156000000E+04
 0.1340E+03
 0.6101E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 037:
I-135
```

```
  2
 0.2379600000E+05
 0.1350E+03
 0.5172E+05
Xe-135m  0.1500E+00
Xe-135   0.8500E+00
none     0.0000E+00
Nuclide 038:
Xe-133
  1
 0.4531680000E+06
 0.1330E+03
 0.5305E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 039:
Xe-135
  1
 0.3272400000E+05
 0.1350E+03
 0.2195E+05
Cs-135   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 040:
Cs-134
  3
 0.6507177120E+08
 0.1340E+03
 0.7990E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 041:
Cs-136
  3
 0.1131840000E+07
 0.1360E+03
 0.1953E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 042:
Cs-137
  3
 0.9467280000E+09
 0.1370E+03
 0.5073E+04
Ba-137m  0.9500E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 043:
Ba-139
  6
 0.4962000000E+04
 0.1390E+03
 0.4973E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 044:
Ba-140
  6
 0.1100736000E+07
 0.1400E+03
 0.4807E+05
```

```
La-140   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 045:
La-140
  9
 0.1449792000E+06
 0.1400E+03
 0.5172E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 046:
La-141
  9
 0.1414800000E+05
 0.1410E+03
 0.4542E+05
Ce-141   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 047:
La-142
  9
 0.5550000000E+04
 0.1420E+03
 0.4376E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 048:
Ce-141
  8
 0.2808086400E+07
 0.1410E+03
 0.4542E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 049:
Ce-143
  8
 0.1188000000E+06
 0.1430E+03
 0.4244E+05
Pr-143   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 050:
Ce-144
  8
 0.2456352000E+08
 0.1440E+03
 0.3780E+05
Pr-144m  0.1800E-01
Pr-144   0.9800E+00
none     0.0000E+00
Nuclide 051:
Pr-143
  9
 0.1171584000E+07
 0.1430E+03
 0.4111E+05
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 052:
```

```
Nd-147
  9
 0.9486720000E+06
 0.1470E+03
 0.1814E+05
Pm-147   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 053:
Np-239
  8
 0.2034720000E+06
 0.2390E+03
 0.5404E+06
Pu-239   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 054:
Pu-238
  8
 0.2768863824E+10
 0.2380E+03
 0.2105E+03
U-234    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 055:
Pu-239
  8
 0.7594336440E+12
 0.2390E+03
 0.1247E+02
U-235    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 056:
Pu-240
  8
 0.2062920312E+12
 0.2400E+03
 0.1257E+02
U-236    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 057:
Pu-241
  8
 0.4544294400E+09
 0.2410E+03
 0.7493E+04
U-237    0.2400E-04
Am-241   0.1000E+01
none     0.0000E+00
Nuclide 058:
Am-241
  9
 0.1363919472E+11
 0.2410E+03
 0.1326E+02
Np-237   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 059:
Cm-242
  9
 0.1406592000E+08
 0.2420E+03
```

```
 0.2606E+04
Pu-238   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 060:
Cm-244
  9
 0.5715081360E+09
 0.2440E+03
 0.3349E+03
Pu-240   0.1000E+01
none     0.0000E+00
none     0.0000E+00
End of Nuclear Inventory File
```

Attachment 12.7b – MicroShield Output Files (Westinghouse Fuel)

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE667_West.msd	August 4, 2019	10:11:39 PM	00:00:02

Project Info

Case Title	Case 1
Description	Containment Shine CR Dose Rate @ T=0.667 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

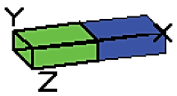
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	4.8100e-005	1.7797e+006	2.2351e-009	8.2698e-005
Ba-137m	1.1920e+002	4.4103e+012	5.5387e-003	2.0493e+002
Ba-139	1.2900e+001	4.7730e+011	5.9943e-004	2.2179e+001
Ba-140	1.7400e+001	6.4380e+011	8.0853e-004	2.9916e+001
Ce-141	4.1200e-001	1.5244e+010	1.9145e-005	7.0835e-001
Ce-143	3.8000e-001	1.4060e+010	1.7658e-005	6.5333e-001
Ce-144	3.4300e-001	1.2691e+010	1.5938e-005	5.8972e-001
Cm-242	9.4500e-003	3.4965e+008	4.3912e-007	1.6247e-002
Cm-244	1.2100e-003	4.4770e+007	5.6225e-008	2.0803e-003
Co-58	6.9300e-003	2.5641e+008	3.2202e-007	1.1915e-002
Co-60	8.3000e-003	3.0710e+008	3.8568e-007	1.4270e-002
Cs-134	1.9800e+002	7.3260e+012	9.2005e-003	3.4042e+002
Cs-136	4.8400e+001	1.7908e+012	2.2490e-003	8.3214e+001
Cs-137	1.2600e+002	4.6620e+012	5.8549e-003	2.1663e+002
I-131	7.2200e+002	2.6714e+013	3.3549e-002	1.2413e+003
I-132	9.2600e+002	3.4262e+013	4.3029e-002	1.5921e+003
I-133	1.4500e+003	5.3650e+013	6.7378e-002	2.4930e+003
I-134	9.6500e+002	3.5705e+013	4.4841e-002	1.6591e+003
I-135	1.2900e+003	4.7730e+013	5.9943e-002	2.2179e+003
Kr-85	5.0300e+001	1.8611e+012	2.3373e-003	8.6480e+001
Kr-85m	7.3100e+002	2.7047e+013	3.3968e-002	1.2568e+003
Kr-87	1.0900e+003	4.0330e+013	5.0649e-002	1.8740e+003
Kr-88	1.8800e+003	6.9560e+013	8.7358e-002	3.2323e+003

La-140	2.1900e-001	8.1030e+009	1.0176e-005	3.7652e-001
La-141	1.4600e-001	5.4020e+009	6.7842e-006	2.5102e-001
La-142	1.1800e-001	4.3660e+009	5.4831e-006	2.0288e-001
Mo-99	2.3000e+000	8.5100e+010	1.0687e-004	3.9544e+000
Nb-95	1.6800e-001	6.2160e+009	7.8065e-006	2.8884e-001
Nd-147	6.5700e-002	2.4309e+009	3.0529e-006	1.1296e-001
Np-239	4.8600e+000	1.7982e+011	2.2583e-004	8.3557e+000
Pr-143	1.4900e-001	5.5130e+009	6.9236e-006	2.5617e-001
Pr-144	3.3810e-001	1.2510e+010	1.5710e-005	5.8128e-001
Pu-238	1.9100e-003	7.0670e+007	8.8753e-008	3.2838e-003
Pu-239	1.1300e-004	4.1810e+006	5.2508e-009	1.9428e-004
Pu-240	1.1400e-004	4.2180e+006	5.2973e-009	1.9600e-004
Pu-241	6.8000e-002	2.5160e+009	3.1598e-006	1.1691e-001
Rb-86	1.6000e+000	5.9200e+010	7.4348e-005	2.7509e+000
Rh-103m	1.9449e+000	7.1960e+010	9.0373e-005	3.3438e+000
Rh-105	1.3200e+000	4.8840e+010	6.1337e-005	2.2695e+000
Rh-106	8.5700e-001	3.1709e+010	3.9822e-005	1.4734e+000
Ru-103	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Ru-105	1.2600e+000	4.6620e+010	5.8549e-005	2.1663e+000
Ru-106	8.5700e-001	3.1709e+010	3.9822e-005	1.4734e+000
Sb-127	2.6800e+000	9.9160e+010	1.2453e-004	4.6077e+000
Sb-129	7.1900e+000	2.6603e+011	3.3410e-004	1.2362e+001
Sr-89	9.8500e+000	3.6445e+011	4.5770e-004	1.6935e+001
Sr-90	1.3600e+000	5.0320e+010	6.3195e-005	2.3382e+000
Sr-91	1.1700e+001	4.3290e+011	5.4367e-004	2.0116e+001
Sr-92	1.1200e+001	4.1440e+011	5.2043e-004	1.9256e+001
Tc-99m	2.0300e+000	7.5110e+010	9.4329e-005	3.4902e+000
Te-127	2.6800e+000	9.9160e+010	1.2453e-004	4.6077e+000
Te-127m	3.6100e-001	1.3357e+010	1.6775e-005	6.2066e-001
Te-129	7.4600e+000	2.7602e+011	3.4665e-004	1.2826e+001
Te-129m	1.1700e+000	4.3290e+010	5.4367e-005	2.0116e+000
Te-131m	3.5200e+000	1.3024e+011	1.6356e-004	6.0519e+000
Te-132	3.4700e+001	1.2839e+012	1.6124e-003	5.9659e+001
Xe-133	5.7900e+003	2.1423e+014	2.6905e-001	9.9547e+003
Xe-135	2.4300e+003	8.9910e+013	1.1292e-001	4.1779e+003
Y-90	1.5500e-002	5.7350e+008	7.2024e-007	2.6649e-002
Y-91	1.2700e-001	4.6990e+009	5.9013e-006	2.1835e-001
Y-92	3.6400e-001	1.3468e+010	1.6914e-005	6.2582e-001
Y-93	1.4500e-001	5.3650e+009	6.7378e-006	2.4930e-001
Zr-95	1.6700e-001	6.1790e+009	7.7600e-006	2.8712e-001
Zr-97	1.6100e-001	5.9570e+009	7.4812e-006	2.7681e-001

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	2.199e+13	0.000e+00	5.852e-24	0.000e+00	5.020e-25	0.000e+00	4.382e-25	0.000e+00	4.382e-27
0.02	1.479e+10	1.534e-271	6.193e-27	5.314e-273	2.145e-28	4.640e-273	1.873e-28	4.640e-275	1.873e-30
0.03	1.128e+14	1.386e-85	1.044e-22	1.373e-87	1.035e-24	1.199e-87	9.035e-25	1.199e-89	9.035e-27
0.04	1.511e+11	3.807e-44	3.710e-25	1.684e-46	1.641e-27	1.470e-46	1.432e-27	1.470e-48	1.432e-29
0.05	1.688e+11	2.715e-28	1.355e-24	7.233e-31	3.610e-27	6.315e-31	3.151e-27	6.315e-33	3.151e-29
0.06	2.283e+11	4.324e-21	1.703e-19	8.588e-24	3.383e-22	7.498e-24	2.953e-22	7.498e-26	2.953e-24
0.08	7.944e+13	1.229e-12	8.676e-11	1.945e-15	1.373e-13	1.698e-15	1.199e-13	1.698e-17	1.199e-15
0.1	3.357e+11	1.409e-12	1.983e-10	2.155e-15	3.034e-13	1.881e-15	2.649e-13	1.881e-17	2.649e-15
0.15	2.510e+13	4.015e-08	1.030e-05	6.611e-11	1.696e-08	5.772e-11	1.480e-08	5.772e-13	1.480e-10
0.2	1.028e+14	3.311e-06	9.170e-04	5.844e-09	1.618e-06	5.102e-09	1.413e-06	5.102e-11	1.413e-08
0.3	1.005e+13	1.273e-05	2.480e-03	2.415e-08	4.704e-06	2.108e-08	4.107e-06	2.108e-10	4.107e-08
0.4	5.240e+13	7.400e-04	9.378e-02	1.442e-06	1.827e-04	1.259e-06	1.595e-04	1.259e-08	1.595e-06
0.5	6.512e+13	5.487e-03	4.781e-01	1.077e-05	9.385e-04	9.403e-06	8.193e-04	9.403e-08	8.193e-06
0.6	7.562e+13	2.588e-02	1.638e+00	5.052e-05	3.198e-03	4.410e-05	2.792e-03	4.410e-07	2.792e-05
0.8	1.262e+14	3.574e-01	1.369e+01	6.797e-04	2.604e-02	5.934e-04	2.273e-02	5.934e-06	2.273e-04
1.0	5.320e+13	7.121e-01	1.870e+01	1.313e-03	3.446e-02	1.146e-03	3.009e-02	1.146e-05	3.009e-04
1.5	5.181e+13	9.305e+00	1.297e+02	1.565e-02	2.183e-01	1.367e-02	1.906e-01	1.367e-04	1.906e-03
2.0	5.285e+13	4.775e+01	4.559e+02	7.385e-02	7.050e-01	6.447e-02	6.155e-01	6.447e-04	6.155e-03
3.0	6.178e+12	3.892e+01	2.339e+02	5.280e-02	3.173e-01	4.610e-02	2.770e-01	4.610e-04	2.770e-03
4.0	1.146e+08	2.285e-03	1.037e-02	2.827e-06	1.283e-05	2.468e-06	1.120e-05	2.468e-08	1.120e-07
Total	**8.364e+14**	**9.708e+01**	**8.541e+02**	**1.444e-01**	**1.305e+00**	**1.260e-01**	**1.140e+00**	**1.260e-03**	**1.140e-02**

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE2_West.msd	August 4, 2019	10:12:57 PM	00:00:02

Project Info

Case Title	Case 2
Description	Containment Shine CR Dose Rate @ T= 2 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

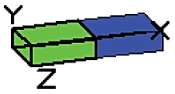
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	8.2700e-004	3.0599e+007	3.8428e-008	1.4219e-003
Ba-137m	4.1246e+002	1.5261e+013	1.9166e-002	7.0913e+002
Ba-139	1.1300e+002	4.1810e+012	5.2508e-003	1.9428e+002
Ba-140	2.9800e+002	1.1026e+013	1.3847e-002	5.1235e+002
Ce-141	7.0700e+000	2.6159e+011	3.2852e-004	1.2155e+001
Ce-143	6.3400e+000	2.3458e+011	2.9460e-004	1.0900e+001
Ce-144	5.8900e+000	2.1793e+011	2.7369e-004	1.0127e+001
Cm-242	1.6200e-001	5.9940e+009	7.5277e-006	2.7852e-001
Cm-244	2.0900e-002	7.7330e+008	9.7117e-007	3.5933e-002
Co-58	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Co-60	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
Cs-134	6.8700e+002	2.5419e+013	3.1923e-002	1.1812e+003
Cs-136	1.6700e+002	6.1790e+012	7.7600e-003	2.8712e+002
Cs-137	4.3600e+002	1.6132e+013	2.0260e-002	7.4961e+002
I-131	3.0600e+003	1.1322e+014	1.4219e-001	5.2610e+003
I-132	3.3900e+003	1.2543e+014	1.5752e-001	5.8284e+003
I-133	5.9100e+003	2.1867e+014	2.7462e-001	1.0161e+004
I-134	1.4300e+003	5.2910e+013	6.6448e-002	2.4586e+003
I-135	4.7900e+003	1.7723e+014	2.2258e-001	8.2354e+003
Kr-85	1.3100e+003	4.8470e+013	6.0872e-002	2.2523e+003
Kr-85m	1.5400e+004	5.6980e+014	7.1560e-001	2.6477e+004
Kr-87	1.3700e+004	5.0690e+014	6.3660e-001	2.3554e+004
Kr-88	3.5100e+004	1.2987e+015	1.6310e+000	6.0347e+004

La-140	7.3600e+000	2.7232e+011	3.4200e-004	1.2654e+001
La-141	1.9900e+000	7.3630e+010	9.2470e-005	3.4214e+000
La-142	1.1100e+000	4.1070e+010	5.1579e-005	1.9084e+000
Mo-99	3.9000e+001	1.4430e+012	1.8122e-003	6.7052e+001
Nb-95	2.8900e+000	1.0693e+011	1.3429e-004	4.9687e+000
Nd-147	1.1200e+000	4.1440e+010	5.2043e-005	1.9256e+000
Np-239	8.2200e+001	3.0414e+012	3.8196e-003	1.4133e+002
Pr-143	2.5700e+000	9.5090e+010	1.1942e-004	4.4186e+000
Pr-144	5.8058e+000	2.1481e+011	2.6978e-004	9.9818e+000
Pu-238	3.2800e-002	1.2136e+009	1.5241e-006	5.6393e-002
Pu-239	1.9400e-003	7.1780e+007	9.0147e-008	3.3354e-003
Pu-240	1.9600e-003	7.2520e+007	9.1076e-008	3.3698e-003
Pu-241	1.1700e+000	4.3290e+010	5.4367e-005	2.0116e+000
Rb-86	5.5400e+000	2.0498e+011	2.5743e-004	9.5249e+000
Rh-103m	3.3412e+001	1.2362e+012	1.5526e-003	5.7445e+001
Rh-105	2.2500e+001	8.3250e+011	1.0455e-003	3.8684e+001
Rh-106	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001
Ru-103	3.3500e+001	1.2395e+012	1.5567e-003	5.7596e+001
Ru-105	1.7500e+001	6.4750e+011	8.1318e-004	3.0088e+001
Ru-106	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001
Sb-127	4.5600e+001	1.6872e+012	2.1189e-003	7.8400e+001
Sb-129	9.9700e+001	3.6889e+012	4.6328e-003	1.7141e+002
Sr-89	1.6900e+002	6.2530e+012	7.8530e-003	2.9056e+002
Sr-90	2.3400e+001	8.6580e+011	1.0873e-003	4.0231e+001
Sr-91	1.8200e+002	6.7340e+012	8.4570e-003	3.1291e+002
Sr-92	1.3600e+002	5.0320e+012	6.3195e-003	2.3382e+002
Tc-99m	3.4800e+001	1.2876e+012	1.6171e-003	5.9831e+001
Te-127	4.5800e+001	1.6946e+012	2.1282e-003	7.8743e+001
Te-127m	6.2000e+000	2.2940e+011	2.8810e-004	1.0660e+001
Te-129	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002
Te-129m	2.0100e+001	7.4370e+011	9.3399e-004	3.4558e+001
Te-131m	5.8700e+001	2.1719e+012	2.7276e-003	1.0092e+002
Te-132	5.8900e+002	2.1793e+013	2.7369e-002	1.0127e+003
Xe-133	1.4900e+005	5.5130e+015	6.9236e+000	2.5617e+005
Xe-135	6.1300e+004	2.2681e+015	2.8484e+000	1.0539e+005
Y-90	4.4400e-001	1.6428e+010	2.0631e-005	7.6336e-001
Y-91	2.2000e+000	8.1400e+010	1.0223e-004	3.7824e+000
Y-92	2.4500e+001	9.0650e+011	1.1384e-003	4.2123e+001
Y-93	2.2700e+000	8.3990e+010	1.0548e-004	3.9028e+000
Zr-95	2.8700e+000	1.0619e+011	1.3336e-004	4.9344e+000
Zr-97	2.6300e+000	9.7310e+010	1.2221e-004	4.5217e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	5.048e+14	0.000e+00	1.343e-22	0.000e+00	1.152e-23	0.000e+00	1.006e-23	0.000e+00	1.006e-25

0.02	2.524e+11	2.618e-270	1.057e-25	9.069e-272	3.660e-27	7.917e-272	3.196e-27	7.917e-274	3.196e-29
0.03	2.814e+15	3.458e-84	2.606e-21	3.427e-86	2.583e-23	2.992e-86	2.255e-23	2.992e-88	2.255e-25
0.04	7.638e+11	1.924e-43	1.876e-24	8.511e-46	8.295e-27	7.430e-46	7.242e-27	7.430e-48	7.242e-29
0.05	2.865e+12	4.609e-27	2.300e-23	1.228e-29	6.127e-26	1.072e-29	5.349e-26	1.072e-31	5.349e-28
0.06	8.566e+11	1.622e-20	6.390e-19	3.222e-23	1.269e-21	2.813e-23	1.108e-21	2.813e-25	1.108e-23
0.08	2.027e+15	3.136e-11	2.214e-09	4.963e-14	3.503e-12	4.333e-14	3.058e-12	4.333e-16	3.058e-14
0.1	5.818e+12	2.441e-11	3.437e-09	3.735e-14	5.259e-12	3.261e-14	4.591e-12	3.261e-16	4.591e-14
0.15	4.841e+14	7.743e-07	1.986e-04	1.275e-09	3.270e-07	1.113e-09	2.855e-07	1.113e-11	2.855e-09
0.2	2.410e+15	7.764e-05	2.150e-02	1.370e-07	3.795e-05	1.196e-07	3.313e-05	1.196e-09	3.313e-07
0.3	1.076e+14	1.363e-04	2.655e-02	2.585e-07	5.035e-05	2.256e-07	4.396e-05	2.256e-09	4.396e-07
0.4	4.163e+14	5.879e-03	7.451e-01	1.146e-05	1.452e-03	1.000e-05	1.267e-03	1.000e-07	1.267e-05
0.5	2.606e+14	2.196e-02	1.913e+00	4.310e-05	3.755e-03	3.763e-05	3.278e-03	3.763e-07	3.278e-05
0.6	3.211e+14	1.099e-01	6.958e+00	2.145e-04	1.358e-02	1.873e-04	1.186e-02	1.873e-06	1.186e-04
0.8	5.114e+14	1.449e+00	5.550e+01	2.756e-03	1.056e-01	2.406e-03	9.216e-02	2.406e-05	9.216e-04
1.0	2.568e+14	3.438e+00	9.026e+01	6.337e-03	1.664e-01	5.532e-03	1.453e-01	5.532e-05	1.453e-03
1.5	3.830e+14	6.878e+01	9.591e+02	1.157e-01	1.614e+00	1.010e-01	1.409e+00	1.010e-03	1.409e-02
2.0	8.341e+14	7.536e+02	7.195e+03	1.165e+00	1.113e+01	1.017e+00	9.713e+00	1.017e-02	9.713e-02
3.0	8.093e+13	5.098e+02	3.063e+03	6.917e-01	4.156e+00	6.038e-01	3.628e+00	6.038e-03	3.628e-02
4.0	1.078e+09	2.149e-02	9.753e-02	2.659e-05	1.207e-04	2.321e-05	1.053e-04	2.321e-07	1.053e-06
Total	**1.142e+16**	**1.337e+03**	**1.137e+04**	**1.982e+00**	**1.719e+01**	**1.730e+00**	**1.500e+01**	**1.730e-02**	**1.500e-01**

MicroShield 10.04

Date	By	Checked

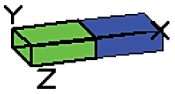
File Name	Run Date	Run Time	Duration
DRE4_West.msd	August 4, 2019	10:14:08 PM	00:00:02

Project Info	
Case Title	Case 3
Description	Containment Shine CR Dose Rate @ T= 4 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	9.3700e-004	3.4669e+007	4.3540e-008	1.6110e-003
Ba-137m	4.3232e+002	1.5996e+013	2.0089e-002	7.4329e+002
Ba-139	4.7000e+001	1.7390e+012	2.1840e-003	8.0807e+001
Ba-140	3.3600e+002	1.2432e+013	1.5613e-002	5.7768e+002
Ce-141	8.0000e+000	2.9600e+011	3.7174e-004	1.3754e+001
Ce-143	6.8900e+000	2.5493e+011	3.2016e-004	1.1846e+001
Ce-144	6.6700e+000	2.4679e+011	3.0994e-004	1.1468e+001
Cm-242	1.8400e-001	6.8080e+009	8.5500e-006	3.1635e-001
Cm-244	2.3600e-002	8.7320e+008	1.0966e-006	4.0575e-002
Co-58	1.3500e-001	4.9950e+009	6.2731e-006	2.3210e-001
Co-60	1.6100e-001	5.9570e+009	7.4812e-006	2.7681e-001
Cs-134	7.2000e+002	2.6640e+013	3.3456e-002	1.2379e+003
Cs-136	1.7400e+002	6.4380e+012	8.0853e-003	2.9916e+002
Cs-137	4.5700e+002	1.6909e+013	2.1236e-002	7.8572e+002
I-131	3.8600e+003	1.4282e+014	1.7936e-001	6.6365e+003
I-132	2.7500e+003	1.0175e+014	1.2779e-001	4.7280e+003
I-133	7.0100e+003	2.5937e+014	3.2574e-001	1.2052e+004
I-134	3.7400e+002	1.3838e+013	1.7379e-002	6.4301e+002
I-135	4.9200e+003	1.8204e+014	2.2862e-001	8.4589e+003
Kr-85	4.1200e+003	1.5244e+014	1.9145e-001	7.0835e+003
Kr-85m	3.5800e+004	1.3246e+015	1.6635e+000	6.1551e+004
Kr-87	1.4500e+004	5.3650e+014	6.7378e-001	2.4930e+004
Kr-88	6.8100e+004	2.5197e+015	3.1644e+000	1.1708e+005

La-140	1.8800e+001	6.9560e+011	8.7358e-004	3.2323e+001
La-141	1.5800e+000	5.8460e+010	7.3418e-005	2.7165e+000
La-142	5.1100e-001	1.8907e+010	2.3745e-005	8.7856e-001
Mo-99	4.3200e+001	1.5984e+012	2.0074e-003	7.4273e+001
Nb-95	3.2800e+000	1.2136e+011	1.5241e-004	5.6393e+000
Nd-147	1.2700e+000	4.6990e+010	5.9013e-005	2.1835e+000
Np-239	9.0800e+001	3.3596e+012	4.2192e-003	1.5611e+002
Pr-143	2.9300e+000	1.0841e+011	1.3615e-004	5.0375e+000
Pr-144	6.5746e+000	2.4326e+011	3.0550e-004	1.1304e+001
Pu-238	3.7100e-002	1.3727e+009	1.7239e-006	6.3786e-002
Pu-239	2.2000e-003	8.1400e+007	1.0223e-007	3.7824e-003
Pu-240	2.2200e-003	8.2140e+007	1.0316e-007	3.8168e-003
Pu-241	1.3200e+000	4.8840e+010	6.1337e-005	2.2695e+000
Rb-86	5.7900e+000	2.1423e+011	2.6905e-004	9.9547e+000
Rh-103m	3.7800e+001	1.3986e+012	1.7565e-003	6.4990e+001
Rh-105	2.5200e+001	9.3240e+011	1.1710e-003	4.3326e+001
Rh-106	1.6700e+001	6.1790e+011	7.7600e-004	2.8712e+001
Ru-103	3.7900e+001	1.4023e+012	1.7611e-003	6.5161e+001
Ru-105	1.4500e+001	5.3650e+011	6.7378e-004	2.4930e+001
Ru-106	1.6700e+001	6.1790e+011	7.7600e-004	2.8712e+001
Sb-127	5.0900e+001	1.8833e+012	2.3652e-003	8.7512e+001
Sb-129	8.1900e+001	3.0303e+012	3.8057e-003	1.4081e+002
Sr-89	1.9100e+002	7.0670e+012	8.8753e-003	3.2838e+002
Sr-90	2.6400e+001	9.7680e+011	1.2267e-003	4.5389e+001
Sr-91	1.7800e+002	6.5860e+012	8.2712e-003	3.0603e+002
Sr-92	9.2500e+001	3.4225e+012	4.2982e-003	1.5903e+002
Tc-99m	3.9300e+001	1.4541e+012	1.8262e-003	6.7568e+001
Te-127	5.1500e+001	1.9055e+012	2.3931e-003	8.8543e+001
Te-127m	7.0200e+000	2.5974e+011	3.2620e-004	1.2069e+001
Te-129	1.0100e+002	3.7370e+012	4.6932e-003	1.7365e+002
Te-129m	2.2800e+001	8.4360e+011	1.0595e-003	3.9200e+001
Te-131m	6.3500e+001	2.3495e+012	2.9507e-003	1.0917e+002
Te-132	6.5500e+002	2.4235e+013	3.0436e-002	1.1261e+003
Xe-133	4.6700e+005	1.7279e+016	2.1700e+001	8.0291e+005
Xe-135	1.7100e+005	6.3270e+015	7.9459e+000	2.9400e+005
Y-90	1.0300e+000	3.8110e+010	4.7861e-005	1.7709e+000
Y-91	2.5600e+000	9.4720e+010	1.1896e-004	4.4014e+000
Y-92	5.5100e+001	2.0387e+012	2.5603e-003	9.4733e+001
Y-93	2.2400e+000	8.2880e+010	1.0409e-004	3.8512e+000
Zr-95	3.2500e+000	1.2025e+011	1.5102e-004	5.5877e+000
Zr-97	2.7400e+000	1.0138e+011	1.2732e-004	4.7109e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	1.403e+15	0.000e+00	3.735e-22	0.000e+00	3.203e-23	0.000e+00	2.796e-23	0.000e+00	2.796e-25

0.02	2.831e+11	2.937e-270	1.185e-25	1.017e-271	4.106e-27	8.880e-272	3.584e-27	8.880e-274	3.584e-29
0.03	8.693e+15	1.068e-83	8.049e-21	1.059e-85	7.977e-23	9.242e-86	6.964e-23	9.242e-88	6.964e-25
0.04	8.005e+11	2.017e-43	1.966e-24	8.921e-46	8.694e-27	7.788e-46	7.590e-27	7.788e-48	7.590e-29
0.05	3.186e+12	5.126e-27	2.558e-23	1.365e-29	6.814e-26	1.192e-29	5.948e-26	1.192e-31	5.948e-28
0.06	8.977e+11	1.700e-20	6.697e-19	3.377e-23	1.330e-21	2.948e-23	1.161e-21	2.948e-25	1.161e-23
0.08	6.346e+15	9.820e-11	6.930e-09	1.554e-13	1.097e-11	1.357e-13	9.574e-12	1.357e-15	9.574e-14
0.1	8.565e+12	3.594e-11	5.060e-09	5.498e-14	7.741e-12	4.800e-14	6.758e-12	4.800e-16	6.758e-14
0.15	1.102e+15	1.763e-06	4.521e-04	2.903e-09	7.445e-07	2.534e-09	6.499e-07	2.534e-11	6.499e-09
0.2	6.389e+15	2.058e-04	5.699e-02	3.632e-07	1.006e-04	3.171e-07	8.782e-05	3.171e-09	8.782e-07
0.3	2.182e+14	2.763e-04	5.383e-02	5.242e-07	1.021e-04	4.576e-07	8.914e-05	4.576e-09	8.914e-07
0.4	5.104e+14	7.207e-03	9.134e-01	1.404e-05	1.780e-03	1.226e-05	1.554e-03	1.226e-07	1.554e-05
0.5	2.963e+14	2.497e-02	2.175e+00	4.901e-05	4.270e-03	4.278e-05	3.728e-03	4.278e-07	3.728e-05
0.6	4.121e+14	1.411e-01	8.929e+00	2.753e-04	1.743e-02	2.404e-04	1.521e-02	2.404e-06	1.521e-04
0.8	6.048e+14	1.713e+00	6.564e+01	3.259e-03	1.248e-01	2.845e-03	1.090e-01	2.845e-05	1.090e-03
1.0	3.345e+14	4.477e+00	1.175e+02	8.252e-03	2.167e-01	7.204e-03	1.891e-01	7.204e-05	1.891e-03
1.5	5.911e+14	1.062e+02	1.480e+03	1.786e-01	2.490e+00	1.559e-01	2.174e+00	1.559e-03	2.174e-02
2.0	1.574e+15	1.422e+03	1.358e+04	2.199e+00	2.100e+01	1.920e+00	1.833e+01	1.920e-02	1.833e-01
3.0	9.449e+13	5.953e+02	3.577e+03	8.076e-01	4.853e+00	7.051e-01	4.237e+00	7.051e-03	4.237e-02
4.0	4.963e+08	9.895e-03	4.490e-02	1.224e-05	5.555e-05	1.069e-05	4.849e-05	1.069e-07	4.849e-07
Total	**2.858e+16**	**2.130e+03**	**1.883e+04**	**3.197e+00**	**2.870e+01**	**2.791e+00**	**2.506e+01**	**2.791e-02**	**2.506e-01**

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE8_West.msd	August 4, 2019	10:15:25 PM	00:00:02

Project Info

Case Title	Case 4
Description	CR Dose Rate From Containment Shine T= 8 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

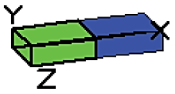
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	8.0500e-004	2.9785e+007	3.7406e-008	1.3840e-003
Ba-137m	3.5286e+002	1.3056e+013	1.6396e-002	6.0666e+002
Ba-139	5.4000e+000	1.9980e+011	2.5092e-004	9.2842e+000
Ba-140	2.8600e+002	1.0582e+013	1.3290e-002	4.9172e+002
Ce-141	6.8500e+000	2.5345e+011	3.1830e-004	1.1777e+001
Ce-143	5.4400e+000	2.0128e+011	2.5278e-004	9.3529e+000
Ce-144	5.7200e+000	2.1164e+011	2.6579e-004	9.8343e+000
Cm-242	1.5800e-001	5.8460e+009	7.3418e-006	2.7165e-001
Cm-244	2.0300e-002	7.5110e+008	9.4329e-007	3.4902e-002
Co-58	1.1600e-001	4.2920e+009	5.3902e-006	1.9944e-001
Co-60	1.3900e-001	5.1430e+009	6.4590e-006	2.3898e-001
Cs-134	5.8700e+002	2.1719e+013	2.7276e-002	1.0092e+003
Cs-136	1.4100e+002	5.2170e+012	6.5519e-003	2.4242e+002
Cs-137	3.7300e+002	1.3801e+013	1.7332e-002	6.4129e+002
I-131	4.2400e+003	1.5688e+014	1.9702e-001	7.2898e+003
I-132	1.3000e+003	4.8100e+013	6.0407e-002	2.2351e+003
I-133	6.8400e+003	2.5308e+014	3.1784e-001	1.1760e+004
I-134	1.7600e+001	6.5120e+011	8.1782e-004	3.0259e+001
I-135	3.6100e+003	1.3357e+014	1.6775e-001	6.2066e+003
Kr-85	8.0900e+003	2.9933e+014	3.7592e-001	1.3909e+004
Kr-85m	3.7800e+004	1.3986e+015	1.7565e+000	6.4989e+004
Kr-87	3.2200e+003	1.1914e+014	1.4962e-001	5.5361e+003
Kr-88	5.0400e+004	1.8648e+015	2.3420e+000	8.6652e+004

La-140	3.3900e+001	1.2543e+012	1.5752e-003	5.8284e+001
La-141	6.7200e-001	2.4864e+010	3.1226e-005	1.1554e+000
La-142	7.2700e-002	2.6899e+009	3.3782e-006	1.2499e-001
Mo-99	3.5600e+001	1.3172e+012	1.6542e-003	6.1207e+001
Nb-95	2.8100e+000	1.0397e+011	1.3057e-004	4.8312e+000
Nd-147	1.0800e+000	3.9960e+010	5.0185e-005	1.8568e+000
Np-239	7.4300e+001	2.7491e+012	3.4525e-003	1.2774e+002
Pr-143	2.5400e+000	9.3980e+010	1.1803e-004	4.3670e+000
Pr-144	5.6382e+000	2.0861e+011	2.6199e-004	9.6937e+000
Pu-238	3.1900e-002	1.1803e+009	1.4823e-006	5.4845e-002
Pu-239	1.8900e-003	6.9930e+007	8.7823e-008	3.2495e-003
Pu-240	1.9100e-003	7.0670e+007	8.8753e-008	3.2838e-003
Pu-241	1.1400e+000	4.2180e+010	5.2973e-005	1.9600e+000
Rb-86	4.6900e+000	1.7353e+011	2.1793e-004	8.0635e+000
Rh-103m	3.2415e+001	1.1993e+012	1.5062e-003	5.5730e+001
Rh-105	2.0700e+001	7.6590e+011	9.6187e-004	3.5589e+001
Rh-106	1.4300e+001	5.2910e+011	6.6448e-004	2.4586e+001
Ru-103	3.2500e+001	1.2025e+012	1.5102e-003	5.5877e+001
Ru-105	6.6900e+000	2.4753e+011	3.1087e-004	1.1502e+001
Ru-106	1.4300e+001	5.2910e+011	6.6448e-004	2.4586e+001
Sb-127	4.2500e+001	1.5725e+012	1.9749e-003	7.3070e+001
Sb-129	3.7000e+001	1.3690e+012	1.7193e-003	6.3614e+001
Sr-89	1.6400e+002	6.0680e+012	7.6206e-003	2.8196e+002
Sr-90	2.2700e+001	8.3990e+011	1.0548e-003	3.9028e+001
Sr-91	1.1400e+002	4.2180e+012	5.2973e-003	1.9600e+002
Sr-92	2.8600e+001	1.0582e+012	1.3290e-003	4.9172e+001
Tc-99m	3.3100e+001	1.2247e+012	1.5381e-003	5.6908e+001
Te-127	4.3500e+001	1.6095e+012	2.0213e-003	7.4789e+001
Te-127m	6.0400e+000	2.2348e+011	2.8066e-004	1.0385e+001
Te-129	5.3000e+001	1.9610e+012	2.4628e-003	9.1122e+001
Te-129m	1.9500e+001	7.2150e+011	9.0611e-004	3.3526e+001
Te-131m	4.9700e+001	1.8389e+012	2.3094e-003	8.5449e+001
Te-132	5.4300e+002	2.0091e+013	2.5232e-002	9.3357e+002
Xe-133	8.9700e+005	3.3189e+016	4.1681e+001	1.5422e+006
Xe-135	2.4900e+005	9.2130e+015	1.1570e+001	4.2810e+005
Y-90	1.7900e+000	6.6230e+010	8.3176e-005	3.0775e+000
Y-91	2.3100e+000	8.5470e+010	1.0734e-004	3.9716e+000
Y-92	4.6600e+001	1.7242e+012	2.1654e-003	8.0119e+001
Y-93	1.4600e+000	5.4020e+010	6.7842e-005	2.5102e+000
Zr-95	2.7800e+000	1.0286e+011	1.2918e-004	4.7796e+000
Zr-97	2.0000e+000	7.4000e+010	9.2935e-005	3.4386e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.347e+15	0.000e+00	6.247e-22	0.000e+00	5.358e-23	0.000e+00	4.678e-23	0.000e+00	4.678e-25

0.02	2.381e+11	2.470e-270	9.969e-26	8.555e-272	3.453e-27	7.469e-272	3.015e-27	7.469e-274	3.015e-29
0.03	1.645e+16	2.022e-83	1.524e-20	2.004e-85	1.510e-22	1.749e-85	1.318e-22	1.749e-87	1.318e-24
0.04	6.478e+11	1.632e-43	1.591e-24	7.218e-46	7.035e-27	6.302e-46	6.142e-27	6.302e-48	6.142e-29
0.05	2.642e+12	4.249e-27	2.121e-23	1.132e-29	5.649e-26	9.882e-30	4.931e-26	9.882e-32	4.931e-28
0.06	7.279e+11	1.378e-20	5.430e-19	2.738e-23	1.079e-21	2.390e-23	9.415e-22	2.390e-25	9.415e-24
0.08	1.218e+16	1.886e-10	1.331e-08	2.984e-13	2.106e-11	2.605e-13	1.838e-11	2.605e-15	1.838e-13
0.1	6.621e+12	2.778e-11	3.911e-09	4.250e-14	5.984e-12	3.710e-14	5.224e-12	3.710e-16	5.224e-14
0.15	1.145e+15	1.830e-06	4.695e-04	3.014e-09	7.731e-07	2.631e-09	6.749e-07	2.631e-11	6.749e-09
0.2	8.818e+15	2.840e-04	7.866e-02	5.013e-07	1.388e-04	4.376e-07	1.212e-04	4.376e-09	1.212e-06
0.3	2.234e+14	2.830e-04	5.513e-02	5.368e-07	1.046e-04	4.686e-07	9.129e-05	4.686e-09	9.129e-07
0.4	3.064e+14	4.326e-03	5.482e-01	8.429e-06	1.068e-03	7.358e-06	9.325e-04	7.358e-08	9.325e-06
0.5	2.673e+14	2.253e-02	1.963e+00	4.422e-05	3.853e-03	3.860e-05	3.363e-03	3.860e-07	3.363e-05
0.6	4.104e+14	1.405e-01	8.891e+00	2.742e-04	1.735e-02	2.393e-04	1.515e-02	2.393e-06	1.515e-04
0.8	3.898e+14	1.104e+00	4.230e+01	2.100e-03	8.046e-02	1.834e-03	7.024e-02	1.834e-05	7.024e-04
1.0	2.332e+14	3.122e+00	8.197e+01	5.755e-03	1.511e-01	5.024e-03	1.319e-01	5.024e-05	1.319e-03
1.5	4.201e+14	7.544e+01	1.052e+03	1.269e-01	1.770e+00	1.108e-01	1.545e+00	1.108e-03	1.545e-02
2.0	1.154e+15	1.043e+03	9.955e+03	1.613e+00	1.539e+01	1.408e+00	1.344e+01	1.408e-02	1.344e-01
3.0	3.109e+13	1.959e+02	1.177e+03	2.658e-01	1.597e+00	2.320e-01	1.394e+00	2.320e-03	1.394e-02
4.0	7.061e+07	1.408e-03	6.388e-03	1.742e-06	7.903e-06	1.520e-06	6.899e-06	1.520e-08	6.899e-08
Total	**4.439e+16**	**1.318e+03**	**1.232e+04**	**2.013e+00**	**1.902e+01**	**1.758e+00**	**1.660e+01**	**1.758e-02**	**1.660e-01**

MicroShield 10.04

Date	By	Checked

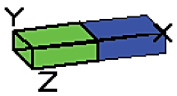
File Name	Run Date	Run Time	Duration
DRE16_West.msd	August 4, 2019	10:16:55 PM	00:00:02

Project Info	
Case Title	Case 5
Description	CR Dose Rate From Containment Shine T= 16 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	6.6900e-004	2.4753e+007	3.1087e-008	1.1502e-003
Ba-137m	2.7056e+002	1.0011e+013	1.2572e-002	4.6516e+002
Ba-139	8.0100e-002	2.9637e+009	3.7220e-006	1.3772e-001
Ba-140	2.3300e+002	8.6210e+012	1.0827e-002	4.0059e+002
Ce-141	5.6400e+000	2.0868e+011	2.6208e-004	9.6968e+000
Ce-143	3.8100e+000	1.4097e+011	1.7704e-004	6.5505e+000
Ce-144	4.7500e+000	1.7575e+011	2.2072e-004	8.1666e+000
Cm-242	1.3100e-001	4.8470e+009	6.0872e-006	2.2523e-001
Cm-244	1.6800e-002	6.2160e+008	7.8065e-007	2.8884e-002
Co-58	9.5500e-002	3.5335e+009	4.4376e-006	1.6419e-001
Co-60	1.1500e-001	4.2550e+009	5.3437e-006	1.9772e-001
Cs-134	4.5000e+002	1.6650e+013	2.0910e-002	7.7368e+002
Cs-136	1.0600e+002	3.9220e+012	4.9255e-003	1.8224e+002
Cs-137	2.8600e+002	1.0582e+013	1.3290e-002	4.9172e+002
I-131	4.5400e+003	1.6798e+014	2.1096e-001	7.8056e+003
I-132	5.5200e+002	2.0424e+013	2.5650e-002	9.4905e+002
I-133	5.7800e+003	2.1386e+014	2.6858e-001	9.9375e+003
I-134	3.4800e-002	1.2876e+009	1.6171e-006	5.9831e-002
I-135	1.7200e+003	6.3640e+013	7.9924e-002	2.9572e+003
Kr-85	1.2100e+004	4.4770e+014	5.6225e-001	2.0803e+004
Kr-85m	1.6300e+004	6.0310e+014	7.5742e-001	2.8024e+004
Kr-87	6.1300e+001	2.2681e+012	2.8484e-003	1.0539e+002
Kr-88	1.0700e+004	3.9590e+014	4.9720e-001	1.8396e+004

La-140	5.4600e+001	2.0202e+012	2.5371e-003	9.3873e+001
La-141	1.3600e-001	5.0320e+009	6.3195e-006	2.3382e-001
La-142	1.6500e-003	6.1050e+007	7.6671e-008	2.8368e-003
Mo-99	2.7100e+001	1.0027e+012	1.2593e-003	4.6593e+001
Nb-95	2.3300e+000	8.6210e+010	1.0827e-004	4.0059e+000
Nd-147	8.7500e-001	3.2375e+010	4.0659e-005	1.5044e+000
Np-239	5.5800e+001	2.0646e+012	2.5929e-003	9.5936e+001
Pr-143	2.1400e+000	7.9180e+010	9.9440e-005	3.6793e+000
Pr-144	4.6821e+000	1.7324e+011	2.1756e-004	8.0498e+000
Pu-238	2.6500e-002	9.8050e+008	1.2314e-006	4.5561e-002
Pu-239	1.5700e-003	5.8090e+007	7.2954e-008	2.6993e-003
Pu-240	1.5800e-003	5.8460e+007	7.3418e-008	2.7165e-003
Pu-241	9.4200e-001	3.4854e+010	4.3772e-005	1.6196e+000
Rb-86	3.5600e+000	1.3172e+011	1.6542e-004	6.1207e+000
Rh-103m	2.6730e+001	9.8899e+011	1.2420e-003	4.5956e+001
Rh-105	1.5100e+001	5.5870e+011	7.0166e-004	2.5961e+001
Rh-106	1.1900e+001	4.4030e+011	5.5296e-004	2.0460e+001
Ru-103	2.6800e+001	9.9160e+011	1.2453e-003	4.6077e+001
Ru-105	1.5900e+000	5.8830e+010	7.3883e-005	2.7337e+000
Ru-106	1.1900e+001	4.4030e+011	5.5296e-004	2.0460e+001
Sb-127	3.3200e+001	1.2284e+012	1.5427e-003	5.7080e+001
Sb-129	8.5100e+000	3.1487e+011	3.9544e-004	1.4631e+001
Sr-89	1.3500e+002	4.9950e+012	6.2731e-003	2.3210e+002
Sr-90	1.8800e+001	6.9560e+011	8.7358e-004	3.2323e+001
Sr-91	5.2900e+001	1.9573e+012	2.4581e-003	9.0950e+001
Sr-92	3.0600e+000	1.1322e+011	1.4219e-004	5.2610e+000
Tc-99m	2.6300e+001	9.7310e+011	1.2221e-003	4.5217e+001
Te-127	3.4900e+001	1.2913e+012	1.6217e-003	6.0003e+001
Te-127m	5.0100e+000	1.8537e+011	2.3280e-004	8.6136e+000
Te-129	2.4700e+001	9.1390e+011	1.1477e-003	4.2466e+001
Te-129m	1.6100e+001	5.9570e+011	7.4812e-004	2.7681e+001
Te-131m	3.4300e+001	1.2691e+012	1.5938e-003	5.8972e+001
Te-132	4.2000e+002	1.5540e+013	1.9516e-002	7.2210e+002
Xe-133	1.2800e+006	4.7360e+016	5.9478e+001	2.2007e+006
Xe-135	2.0300e+005	7.5110e+015	9.4329e+000	3.4902e+005
Y-90	2.9100e+000	1.0767e+011	1.3522e-004	5.0031e+000
Y-91	2.0200e+000	7.4740e+010	9.3864e-005	3.4730e+000
Y-92	1.4300e+001	5.2910e+011	6.6448e-004	2.4586e+001
Y-93	7.0100e-001	2.5937e+010	3.2574e-005	1.2052e+000
Zr-95	2.3000e+000	8.5100e+010	1.0687e-004	3.9544e+000
Zr-97	1.1900e+000	4.4030e+010	5.5296e-005	2.0460e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	3.033e+15	0.000e+00	8.073e-22	0.000e+00	6.924e-23	0.000e+00	6.045e-23	0.000e+00	6.045e-25
0.02	1.899e+11	1.970e-270	7.952e-26	6.824e-272	2.754e-27	5.957e-272	2.405e-27	5.957e-274	2.405e-29
0.03	2.313e+16	2.842e-83	2.142e-20	2.817e-85	2.123e-22	2.459e-85	1.853e-22	2.459e-87	1.853e-24
0.04	4.945e+11	1.246e-43	1.214e-24	5.510e-46	5.370e-27	4.811e-46	4.688e-27	4.811e-48	4.688e-29
0.05	2.043e+12	3.287e-27	1.640e-23	8.757e-30	4.370e-26	7.644e-30	3.815e-26	7.644e-32	3.815e-28
0.06	5.467e+11	1.035e-20	4.078e-19	2.056e-23	8.101e-22	1.795e-23	7.072e-22	1.795e-25	7.072e-24
0.08	1.739e+16	2.690e-10	1.899e-08	4.257e-13	3.005e-11	3.717e-13	2.623e-11	3.717e-15	2.623e-13
0.1	3.000e+12	1.259e-11	1.772e-09	1.926e-14	2.711e-12	1.681e-14	2.367e-12	1.681e-16	2.367e-14
0.15	4.921e+14	7.869e-07	2.018e-04	1.296e-09	3.324e-07	1.131e-09	2.902e-07	1.131e-11	2.902e-09
0.2	6.907e+15	2.225e-04	6.161e-02	3.926e-07	1.087e-04	3.428e-07	9.492e-05	3.428e-09	9.492e-07
0.3	1.046e+14	1.324e-04	2.580e-02	2.512e-07	4.894e-05	2.193e-07	4.273e-05	2.193e-09	4.273e-07
0.4	1.985e+14	2.803e-03	3.553e-01	5.462e-06	6.922e-04	4.768e-06	6.043e-04	4.768e-08	6.043e-06
0.5	2.098e+14	1.767e-02	1.540e+00	3.469e-05	3.023e-03	3.029e-05	2.639e-03	3.029e-07	2.639e-05
0.6	3.063e+14	1.048e-01	6.636e+00	2.046e-04	1.295e-02	1.786e-04	1.131e-02	1.786e-06	1.131e-04
0.8	1.242e+14	3.518e-01	1.348e+01	6.692e-04	2.564e-02	5.842e-04	2.238e-02	5.842e-06	2.238e-04
1.0	7.467e+13	9.995e-01	2.624e+01	1.842e-03	4.837e-02	1.608e-03	4.223e-02	1.608e-05	4.223e-04
1.5	1.148e+14	2.062e+01	2.875e+02	3.469e-02	4.838e-01	3.029e-02	4.223e-01	3.029e-04	4.223e-03
2.0	2.485e+14	2.246e+02	2.144e+03	3.472e-01	3.315e+00	3.031e-01	2.894e+00	3.031e-03	2.894e-02
3.0	3.444e+12	2.170e+01	1.304e+02	2.943e-02	1.769e-01	2.570e-02	1.544e-01	2.570e-04	1.544e-03
4.0	1.603e+06	3.195e-05	1.450e-04	3.953e-08	1.794e-07	3.451e-08	1.566e-07	3.451e-10	1.566e-09
Total	**5.234e+16**	**2.683e+02**	**2.610e+03**	**4.141e-01**	**4.067e+00**	**3.615e-01**	**3.550e+00**	**3.615e-03**	**3.550e-02**

MicroShield 10.04

Date	By	Checked

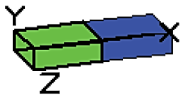
File Name	Run Date	Run Time	Duration
DRE24_West.msd	August 4, 2019	10:18:21 PM	00:00:02

Project Info	
Case Title	Case 6
Description	CR Dose Rate From Containment Shine T= 24 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	6.1300e-004	2.2681e+007	2.8484e-008	1.0539e-003
Ba-137m	2.3745e+002	8.7855e+012	1.1033e-002	4.0824e+002
Ba-139	1.3100e-003	4.8470e+007	6.0872e-008	2.2523e-003
Ba-140	2.0900e+002	7.7330e+012	9.7117e-003	3.5933e+002
Ce-141	5.1300e+000	1.8981e+011	2.3838e-004	8.8200e+000
Ce-143	2.9500e+000	1.0915e+011	1.3708e-004	5.0719e+000
Ce-144	4.3400e+000	1.6058e+011	2.0167e-004	7.4617e+000
Cm-242	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Cm-244	1.5400e-002	5.6980e+008	7.1560e-007	2.6477e-002
Co-58	8.7000e-002	3.2190e+009	4.0427e-006	1.4958e-001
Co-60	1.0500e-001	3.8850e+009	4.8791e-006	1.8053e-001
Cs-134	3.9500e+002	1.4615e+013	1.8355e-002	6.7912e+002
Cs-136	9.1600e+001	3.3892e+012	4.2564e-003	1.5749e+002
Cs-137	2.5100e+002	9.2870e+012	1.1663e-002	4.3154e+002
I-131	4.5600e+003	1.6872e+014	2.1189e-001	7.8400e+003
I-132	4.3200e+002	1.5984e+013	2.0074e-002	7.4273e+002
I-133	4.5700e+003	1.6909e+014	2.1236e-001	7.8572e+003
I-134	6.4400e-005	2.3828e+006	2.9925e-009	1.1072e-004
I-135	7.6700e+002	2.8379e+013	3.5640e-002	1.3187e+003
Kr-85	1.3500e+004	4.9950e+014	6.2731e-001	2.3210e+004
Kr-85m	5.3100e+003	1.9647e+014	2.4674e-001	9.1294e+003

Kr-87	8.7700e-001	3.2449e+010	4.0752e-005	1.5078e+000
Kr-88	1.6900e+003	6.2530e+013	7.8530e-002	2.9056e+003
La-140	7.0800e+001	2.6196e+012	3.2899e-003	1.2173e+002
La-141	3.0300e-002	1.1211e+009	1.4080e-006	5.2094e-002
La-142	4.1400e-005	1.5318e+006	1.9237e-009	7.1179e-005
Mo-99	2.2800e+001	8.4360e+011	1.0595e-003	3.9200e+001
Nb-95	2.1300e+000	7.8810e+010	9.8975e-005	3.6621e+000
Nd-147	7.8300e-001	2.8971e+010	3.6384e-005	1.3462e+000
Np-239	4.6300e+001	1.7131e+012	2.1514e-003	7.9603e+001
Pr-143	1.9800e+000	7.3260e+010	9.2005e-005	3.4042e+000
Pr-144	4.2779e+000	1.5828e+011	1.9878e-004	7.3550e+000
Pu-238	2.4200e-002	8.9540e+008	1.1245e-006	4.1607e-002
Pu-239	1.4400e-003	5.3280e+007	6.6913e-008	2.4758e-003
Pu-240	1.4500e-003	5.3650e+007	6.7378e-008	2.4930e-003
Pu-241	8.6100e-001	3.1857e+010	4.0008e-005	1.4803e+000
Rb-86	3.0800e+000	1.1396e+011	1.4312e-004	5.2954e+000
Rh-103m	2.4236e+001	8.9674e+011	1.1262e-003	4.1669e+001
Rh-105	1.1900e+001	4.4030e+011	5.5296e-004	2.0460e+001
Rh-106	1.0800e+001	3.9960e+011	5.0185e-004	1.8568e+001
Ru-103	2.4300e+001	8.9910e+011	1.1292e-003	4.1779e+001
Ru-105	4.1700e-001	1.5429e+010	1.9377e-005	7.1694e-001
Ru-106	1.0800e+001	3.9960e+011	5.0185e-004	1.8568e+001
Sb-127	2.8600e+001	1.0582e+012	1.3290e-003	4.9172e+001
Sb-129	2.1600e+000	7.9920e+010	1.0037e-004	3.7137e+000
Sr-89	1.2300e+002	4.5510e+012	5.7155e-003	2.1147e+002
Sr-90	1.7200e+001	6.3640e+011	7.9924e-004	2.9572e+001
Sr-91	2.7000e+001	9.9900e+011	1.2546e-003	4.6421e+001
Sr-92	3.6200e-001	1.3394e+010	1.6821e-005	6.2238e-001
Tc-99m	2.2800e+001	8.4360e+011	1.0595e-003	3.9200e+001
Te-127	3.0900e+001	1.1433e+012	1.4358e-003	5.3126e+001
Te-127m	4.5800e+000	1.6946e+011	2.1282e-004	7.8743e+000
Te-129	1.5700e+001	5.8090e+011	7.2954e-004	2.6993e+001
Te-129m	1.4600e+001	5.4020e+011	6.7842e-004	2.5102e+001
Te-131m	2.6000e+001	9.6200e+011	1.2081e-003	4.4702e+001
Te-132	3.5700e+002	1.3209e+013	1.6589e-002	6.1379e+002
Xe-133	1.3700e+006	5.0690e+016	6.3660e+001	2.3554e+006
Xe-135	1.2400e+005	4.5880e+015	5.7619e+000	2.1319e+005
Y-90	3.8700e+000	1.4319e+011	1.7983e-004	6.6536e+000
Y-91	1.9000e+000	7.0300e+010	8.8288e-005	3.2666e+000
Y-92	3.5300e+000	1.3061e+011	1.6403e-004	6.0691e+000
Y-93	3.7000e-001	1.3690e+010	1.7193e-005	6.3614e-001
Zr-95	2.1000e+000	7.7700e+010	9.7581e-005	3.6105e+000
Zr-97	7.8600e-001	2.9082e+010	3.6523e-005	1.3514e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	3.165e+15	0.000e+00	8.424e-22	0.000e+00	7.225e-23	0.000e+00	6.308e-23	0.000e+00	6.308e-25
0.02	1.668e+11	1.731e-270	6.986e-26	5.995e-272	2.420e-27	5.234e-272	2.113e-27	5.234e-274	2.113e-29
0.03	2.457e+16	3.019e-83	2.275e-20	2.992e-85	2.255e-22	2.612e-85	1.968e-22	2.612e-87	1.968e-24
0.04	4.282e+11	1.079e-43	1.051e-24	4.771e-46	4.650e-27	4.165e-46	4.059e-27	4.165e-48	4.059e-29
0.05	1.737e+12	2.794e-27	1.394e-23	7.444e-30	3.715e-26	6.498e-30	3.243e-26	6.498e-32	3.243e-28
0.06	4.701e+11	8.904e-21	3.507e-19	1.769e-23	6.966e-22	1.544e-23	6.082e-22	1.544e-25	6.082e-24
0.08	1.861e+16	2.879e-10	2.032e-08	4.557e-13	3.216e-11	3.978e-13	2.808e-11	3.978e-15	2.808e-13
0.1	1.972e+12	8.273e-12	1.165e-09	1.266e-14	1.782e-12	1.105e-14	1.556e-12	1.105e-16	1.556e-14
0.15	1.657e+14	2.649e-07	6.795e-05	4.363e-10	1.119e-07	3.809e-10	9.768e-08	3.809e-12	9.768e-10
0.2	4.191e+15	1.350e-04	3.738e-02	2.382e-07	6.598e-05	2.080e-07	5.760e-05	2.080e-09	5.760e-07
0.3	4.480e+13	5.675e-05	1.106e-02	1.077e-07	2.097e-05	9.398e-08	1.831e-05	9.398e-10	1.831e-07
0.4	1.688e+14	2.384e-03	3.021e-01	4.644e-06	5.886e-04	4.054e-06	5.138e-04	4.054e-08	5.138e-06
0.5	1.639e+14	1.381e-02	1.203e+00	2.711e-05	2.362e-03	2.367e-05	2.062e-03	2.367e-07	2.062e-05
0.6	2.044e+14	6.995e-02	4.428e+00	1.365e-04	8.643e-03	1.192e-04	7.545e-03	1.192e-06	7.545e-05
0.8	6.235e+13	1.766e-01	6.766e+00	3.359e-04	1.287e-02	2.933e-04	1.124e-02	2.933e-06	1.124e-04
1.0	3.025e+13	4.049e-01	1.063e+01	7.463e-04	1.959e-02	6.515e-04	1.711e-02	6.515e-06	1.711e-04
1.5	3.597e+13	6.461e+00	9.009e+01	1.087e-02	1.516e-01	9.489e-03	1.323e-01	9.489e-05	1.323e-03
2.0	4.173e+13	3.771e+01	3.600e+02	5.831e-02	5.567e-01	5.090e-02	4.860e-01	5.090e-04	4.860e-03
3.0	5.803e+11	3.656e+00	2.197e+01	4.960e-03	2.980e-02	4.330e-03	2.602e-02	4.330e-05	2.602e-04
4.0	4.021e+04	8.017e-07	3.638e-06	9.918e-10	4.500e-09	8.658e-10	3.929e-09	8.658e-12	3.929e-11
Total	**5.146e+16**	**4.849e+01**	**4.954e+02**	**7.539e-02**	**7.822e-01**	**6.581e-02**	**6.828e-01**	**6.581e-04**	**6.828e-03**

Attachment 12.1c - RADTRAD Output File "DRE3CL395.o0" (GNF3 Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:19:20
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3CL395_GNF3.psf
 Inventory file       = c:\users\jhead\desktop\dresden_loca\gnf3\dqloca_gnf3.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3  Containment Leakage - Fuel Burnup = 39 GWD/MTU, Containment Leakage = 3 %/day,
CREV Initiated @ 40 Minutes, Reduction In Containment Leakage After 24 hrs, and CR Unfiltered
Inleakage = 4,000 cfm < 0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 c:\users\jhead\desktop\dresden_loca\gnf3\dqloca_gnf3.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   5
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
 Compartment 4:
 Control Room
```

```
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 5:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
Sprayed Drywell to Reactor Building
  1
  2
  4
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
Pathway 6:
Sprayed Drywell to Unsprayed Drywell
  1
  5
  2
Pathway 7:
Unsprayed Drywell to Sprayed Drywell
  5
  1
  2
Pathway 8:
UnSprayed Drywell to Reactor Building
  5
  2
  4
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
```

```
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  5
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
```

```
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  8
Pathway 1:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

```
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00
  3.3300E-02   3.0000E+00
  2.4000E+01   1.5000E+00
  7.2000E+02   0.0000E+00
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
  8.0000E+00   2.3400E-06
  2.4000E+01   9.3900E-07
```

```
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
  8
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3CL395_GNF3.o1
  1
  1
  1
  0
  0
End of Scenario File
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:19:20
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   5

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number   7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Sprayed Drywell to Reactor Building
   Exit Pathway Number    6: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Sprayed Drywell to Reactor Building
   Inlet Pathway Number   8: UnSprayed Drywell to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
   Exit Pathway Number    5: Control Room Exhaust to Environment

Compartment number  5
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number    7: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    8: UnSprayed Drywell to Reactor Building

Total number of pathways =   8
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:19:20
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
             0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES       5.0000E-02     9.5000E-01      0.0000E+00        5.298E+03
IODINE       5.0000E-02     2.5000E-01      0.0000E+00        2.635E+02
CESIUM       5.0000E-02     2.0000E-01      0.0000E+00        5.859E+04
TELLURIUM    0.0000E+00     5.0000E-02      0.0000E+00        3.648E+01
STRONTIUM    0.0000E+00     2.0000E-02      0.0000E+00        2.136E+03
BARIUM       0.0000E+00     2.0000E-02      0.0000E+00        4.198E+01
RUTHENIUM    0.0000E+00     2.5000E-03      0.0000E+00        5.916E+01
CERIUM       0.0000E+00     5.0000E-04      0.0000E+00        6.662E+02
LANTHANUM    0.0000E+00     2.0000E-04      0.0000E+00        7.637E+00

Inventory Power =      3016. MWt
```

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	5.706E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	9.157E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.852E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.508E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.753E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	3.435E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	4.666E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	4.257E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	4.411E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	4.800E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	4.323E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	4.463E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.828E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	5.132E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.931E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	5.119E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.165E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.569E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.536E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.280E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	2.046E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	3.080E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.613E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.040E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.581E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11
Te-127m	4	4.427E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	7.537E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.449E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.437E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.870E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.723E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.976E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.668E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.497E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.349E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10

Xe-133	1	5.393E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.675E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.741E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	2.264E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	6.235E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	5.225E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	5.072E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.106E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.773E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.685E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.776E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.676E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.835E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.607E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.865E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.572E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.699E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.479E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.748E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.884E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.063E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.599E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.817E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: Reactor Building

Compartment number   3: Environment

Compartment number   4: Control Room

Compartment number   5: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Sprayed Drywell to Reactor Building

     Convection Data
      Time (hr)          Flow Rate (% / day)
       0.0000E+00              0.0000E+00
       3.3300E-02              3.0000E+00
       2.4000E+01              1.5000E+00
       7.2000E+02              0.0000E+00

Pathway number  2: Reactor Building to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       4.1700E-01    4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  3: Filtered Intake to Control Room

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       2.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       4.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
       8.0000E+00    1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
```

1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: UnSprayed Drywell to Reactor Building

Convection Data

Time (hr)	Flow Rate (% / day)
0.0000E+00	0.0000E+00
3.3300E-02	3.0000E+00
2.4000E+01	1.5000E+00
7.2000E+02	0.0000E+00

LOCATION DATA

```
     Location Exclusion Area Boundary     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       4.1700E-01          8.7400E-05
       5.0000E-01          6.7400E-06
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Low Population Zone     is in compartment   3

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       4.1700E-01          1.5500E-05
       5.0000E-01          8.3000E-06
       2.0000E+00          3.5700E-06
       8.0000E+00          2.3400E-06
       2.4000E+01          9.3900E-07
       9.6000E+01          2.5300E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       8.0000E+00                1.8000E-04
       2.4000E+01                2.3000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   4

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:19:20
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    1.1482E+23  0.0000E+00
Elemental I (atoms)    6.3489E+20  0.0000E+00
Organic I (atoms)      1.9636E+19  0.0000E+00
Aerosols (kg)          7.6646E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4065E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8014E-04
Total I (Ci)                                   2.3585E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5538E+21
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```
Elemental I (atoms)    0.0000E+00  1.4125E+19
Organic I (atoms)      0.0000E+00  4.3687E+17
Aerosols (kg)          0.0000E+00  1.7046E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5948E+19
Elemental I (atoms)    0.0000E+00  3.0944E+17
Organic I (atoms)      0.0000E+00  9.5702E+15
Aerosols (kg)          0.0000E+00  3.7345E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.0333  Leakage Transport

Noble gases (atoms)      0.0000E+00
Elemental I (atoms)      0.0000E+00
Organic I (atoms)        0.0000E+00
Aerosols (kg)            0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.5658E-04  1.1253E-01  5.7074E-03
Accumulated dose (rem)  6.5658E-04  1.1253E-01  5.7074E-03

Low Population Zone Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.8797E-05  1.1791E-02  5.9803E-04
Accumulated dose (rem)  6.8797E-05  1.1791E-02  5.9803E-04

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
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Delta dose (rem)        1.0061E-05  4.4482E-02  2.0066E-03
Accumulated dose (rem)  1.0061E-05  4.4482E-02  2.0066E-03

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.6028E+04  6.6341E-02  4.7002E+23  3.1432E+17
Kr-85m                 4.0706E+05  4.9464E-05  3.5044E+20  4.9602E+18
Kr-87                  7.7142E+05  2.7234E-05  1.8851E+20  9.6173E+18
Kr-88                  1.0984E+06  8.7598E-05  5.9947E+20  1.3454E+19
Rb-86                  3.0796E+03  3.7848E-05  2.6503E+20  3.7193E+16
I-131                  1.2414E+06  1.0013E-02  4.6032E+22  1.4994E+19
I-132                  1.7666E+06  1.7115E-04  7.8081E+20  2.1533E+19
I-133                  2.5711E+06  2.2697E-03  1.0277E+22  3.1110E+19
I-134                  2.5976E+06  9.7375E-05  4.3762E+20  3.2859E+19
I-135                  2.3977E+06  6.8274E-04  3.0456E+21  2.9132E+19
Xe-133                 2.4601E+06  1.3143E-02  5.9509E+22  2.9707E+19
Xe-135                 1.2308E+06  4.8195E-04  2.1499E+21  1.4810E+19
Cs-134                 3.5310E+05  2.7291E-01  1.2265E+24  4.2642E+18
Cs-136                 1.0323E+05  1.4086E-03  6.2372E+21  1.2468E+18
Cs-137                 2.8441E+05  3.2698E+00  1.4373E+25  3.4346E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    5.3282E+23  0.0000E+00
Elemental I (atoms)    2.9378E+21  0.0000E+00
Organic I (atoms)      9.0860E+19  0.0000E+00
Aerosols (kg)          3.5567E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.5124E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.3126E-04
Total I (Ci)                                   1.0574E+07

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      5.4831E+19
Elemental I (atoms)      3.0269E+17
Organic I (atoms)        9.3616E+15
Aerosols (kg)            3.6601E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0733E+22
Elemental I (atoms)    0.0000E+00  3.3530E+20
Organic I (atoms)      0.0000E+00  1.0370E+19
Aerosols (kg)          0.0000E+00  4.0540E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3159E+21
Elemental I (atoms)    0.0000E+00  3.4856E+19
Organic I (atoms)      0.0000E+00  1.0780E+18
Aerosols (kg)          0.0000E+00  4.2160E-02

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.8522E+00  7.2698E-06  5.1505E+19  2.1605E+13
Kr-85m                 4.4606E+01  5.4203E-09  3.8402E+16  3.3996E+14
Kr-87                  8.4532E+01  2.9843E-09  2.0657E+16  6.5437E+14
Kr-88                  1.2037E+02  9.5991E-09  6.5690E+16  9.2062E+14
Rb-86                  3.3746E-01  4.1474E-09  2.9042E+16  2.5564E+12
I-131                  1.3603E+02  1.0973E-06  5.0442E+18  1.0306E+15
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I-132                  1.9198E+02  1.8598E-08  8.4850E+16  1.4669E+15
I-133                  2.8175E+02  2.4872E-07  1.1262E+18  2.1370E+15
I-134                  2.8465E+02  1.0670E-08  4.7954E+16  2.2253E+15
I-135                  2.6274E+02  7.4815E-08  3.3374E+17  1.9985E+15
Xe-133                 2.6958E+02  1.4402E-06  6.5210E+18  2.0419E+15
Xe-135                 1.3487E+02  5.2813E-08  2.3559E+17  1.0189E+15
Cs-134                 3.8694E+01  2.9906E-05  1.3440E+20  2.9310E+14
Cs-136                 1.1313E+01  1.5435E-07  6.8347E+17  8.5698E+13
Cs-137                 3.1166E+01  3.5830E-04  1.5750E+21  2.3608E+14

Reactor Building Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    5.8387E+19  0.0000E+00
Elemental I (atoms)    3.2189E+17  0.0000E+00
Organic I (atoms)      9.9553E+15  0.0000E+00
Aerosols (kg)          3.8975E-04  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.0129E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.8451E-09
Total I (Ci)                                   1.1571E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      5.4831E+19
Elemental I (atoms)      3.0269E+17
Organic I (atoms)        9.3616E+15
Aerosols (kg)            3.6601E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5593E+17
Elemental I (atoms)    0.0000E+00  1.9641E+15
Organic I (atoms)      0.0000E+00  6.0746E+13
Aerosols (kg)          0.0000E+00  2.3759E-06

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.1667  Leakage Transport

Noble gases (atoms)      3.9125E+18
Elemental I (atoms)      2.1592E+16
Organic I (atoms)        6.6778E+14
Aerosols (kg)            2.6116E-05

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.8168E-03  1.1382E+00  5.7901E-02
Accumulated dose (rem)  7.4734E-03  1.2507E+00  6.3609E-02

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.1427E-04  1.1926E-01  6.0669E-03
Accumulated dose (rem)  7.8306E-04  1.3105E-01  6.6650E-03

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6829E-04  1.2005E+00  5.4156E-02
Accumulated dose (rem)  2.7836E-04  1.2450E+00  5.6163E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
Kr-85                  5.8613E+04  1.4939E-01  1.0584E+24  1.7619E+18
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Kr-85m                  8.8184E+05  1.0716E-04  7.5918E+20  2.7113E+19
Kr-87                   1.5156E+06  5.3506E-05  3.7037E+20  4.9383E+19
Kr-88                   2.3269E+06  1.8557E-04  1.2699E+21  7.2491E+19
Rb-86                   1.3484E+03  1.6572E-05  1.1605E+20  9.3931E+16
I-131                   5.4673E+05  4.4100E-03  2.0273E+22  3.7932E+19
I-132                   7.7747E+05  7.5321E-05  3.4363E+20  5.4132E+19
I-133                   1.1238E+06  9.9206E-04  4.4920E+21  7.8458E+19
I-134                   9.3934E+05  3.5212E-05  1.5825E+20  7.6954E+19
I-135                   1.0294E+06  2.9312E-04  1.3076E+21  7.2942E+19
Xe-133                  5.5364E+06  2.9577E-02  1.3392E+23  1.6648E+20
Xe-135                  2.7661E+06  1.0831E-03  4.8317E+21  8.3217E+19
Cs-134                  1.5467E+05  1.1954E-01  5.3724E+23  1.0771E+19
Cs-136                  4.5195E+04  6.1665E-04  2.7305E+21  3.1487E+18
Cs-137                  1.2458E+05  1.4322E+00  6.2957E+24  8.6754E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    1.1996E+24  0.0000E+00
Elemental I (atoms)    1.2809E+21  6.2001E+21
Organic I (atoms)      2.0356E+20  0.0000E+00
Aerosols (kg)          1.5579E+00  7.5208E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8592E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6312E-04
Total I (Ci)                                   4.4167E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      3.2880E+20
Elemental I (atoms)      8.1937E+17
Organic I (atoms)        5.5956E+16
Aerosols (kg)            9.9274E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5143E+23
Elemental I (atoms)    0.0000E+00  8.8352E+20
Organic I (atoms)      0.0000E+00  5.9809E+19
Aerosols (kg)          0.0000E+00  1.0704E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.2524E+22
Elemental I (atoms)    0.0000E+00  2.8320E+20
Organic I (atoms)      0.0000E+00  1.4032E+19
Aerosols (kg)          0.0000E+00  3.4369E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
Kr-85                   1.8286E+01  4.6607E-05  3.3020E+20  3.4796E+14
Kr-85m                  2.7511E+02  3.3430E-08  2.3684E+17  5.3205E+15
Kr-87                   4.7283E+02  1.6693E-08  1.1555E+17  9.5318E+15
Kr-88                   7.2594E+02  5.7893E-08  3.9618E+17  1.4172E+16
Rb-86                   1.0221E+00  1.2561E-08  8.7959E+16  2.6670E+13
I-131                   4.1249E+02  3.3272E-06  1.5295E+19  1.0757E+16
I-132                   5.5266E+02  5.3541E-08  2.4427E+17  1.4787E+16
I-133                   8.4798E+02  7.4856E-07  3.3894E+18  2.2195E+16
I-134                   7.0878E+02  2.6569E-08  1.1941E+17  2.0424E+16
I-135                   7.7673E+02  2.2117E-07  9.8662E+17  2.0512E+16
Xe-133                  1.7274E+03  9.2282E-06  4.1785E+19  3.2879E+16
Xe-135                  8.6464E+02  3.3858E-07  1.5104E+18  1.6467E+16
Cs-134                  1.1723E+02  9.0610E-05  4.0721E+20  3.0585E+15
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Cs-136                 3.4256E+01  4.6740E-07  2.0697E+18  8.9395E+14
Cs-137                 9.4428E+01  1.0856E-03  4.7720E+21  2.4635E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    3.7425E+20  0.0000E+00
Elemental I (atoms)    9.7008E+17  0.0000E+00
Organic I (atoms)      6.3486E+16  0.0000E+00
Aerosols (kg)          1.1808E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         9.1053E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1549E-08
Total I (Ci)                                   3.2986E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      3.2880E+20
Elemental I (atoms)      8.1937E+17
Organic I (atoms)        5.5956E+16
Aerosols (kg)            9.9274E-04

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0570E+18
Elemental I (atoms)    0.0000E+00  2.1796E+16
Organic I (atoms)      0.0000E+00  1.0297E+15
Aerosols (kg)          0.0000E+00  2.6460E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.4170  Leakage Transport

Noble gases (atoms)      5.1543E+19
Elemental I (atoms)      1.7680E+17
Organic I (atoms)        8.7643E+15
Aerosols (kg)            2.1457E-04

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.3158E-04  4.9898E-03  6.4419E-04
Accumulated dose (rem)  7.9049E-03  1.2557E+00  6.4253E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.6538E-05  8.8493E-04  1.1424E-04
Accumulated dose (rem)  8.5960E-04  1.3194E-01  6.7792E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3952E-04  6.2086E-01  2.8009E-02
Accumulated dose (rem)  4.1788E-04  1.8659E+00  8.4171E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  6.8439E+04  1.7444E-01  1.2359E+24  2.4709E+18
Kr-85m                 1.0165E+06  1.2352E-04  8.7515E+20  3.7710E+19
Kr-87                  1.6914E+06  5.9713E-05  4.1333E+20  6.7297E+19
Kr-88                  2.6625E+06  2.1234E-04  1.4531E+21  1.0035E+20
Rb-86                  1.3321E+03  1.6372E-05  1.1464E+20  1.0871E+17
I-131                  5.4081E+05  4.3623E-03  2.0054E+22  4.3930E+19
I-132                  7.6885E+05  7.4485E-05  3.3982E+20  6.2673E+19
I-133                  1.1088E+06  9.7884E-04  4.4321E+21  9.0772E+19
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I-134                  8.7036E+05  3.2626E-05  1.4663E+20  8.6930E+19
I-135                  1.0097E+06  2.8750E-04  1.2825E+21  8.4187E+19
Xe-133                 6.4631E+06  3.4529E-02  1.5634E+23  2.3345E+20
Xe-135                 3.2267E+06  1.2635E-03  5.6364E+21  1.1666E+20
Cs-134                 1.5282E+05  1.1811E-01  5.3081E+23  1.2466E+19
Cs-136                 4.4646E+04  6.0916E-04  2.6974E+21  3.6441E+18
Cs-137                 1.2309E+05  1.4151E+00  6.2204E+24  1.0041E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.4006E+24  0.0000E+00
Elemental I (atoms)    1.2637E+21  7.7816E+21
Organic I (atoms)      2.3730E+20  0.0000E+00
Aerosols (kg)          1.5393E+00  9.4455E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8254E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5826E-04
Total I (Ci)                                   4.2985E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      4.6375E+20
Elemental I (atoms)      9.5116E+17
Organic I (atoms)        7.8840E+16
Aerosols (kg)            1.1531E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9461E+23
Elemental I (atoms)    0.0000E+00  1.0234E+21
Organic I (atoms)      0.0000E+00  8.4090E+19
Aerosols (kg)          0.0000E+00  1.2406E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3461E+23
Elemental I (atoms)    0.0000E+00  3.8542E+20
Organic I (atoms)      0.0000E+00  2.2862E+19
Aerosols (kg)          0.0000E+00  4.6820E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  2.6254E+01  6.6918E-05  4.7410E+20  5.9807E+14
Kr-85m                 3.8996E+02  4.7385E-08  3.3572E+17  9.0581E+15
Kr-87                  6.4885E+02  2.2907E-08  1.5856E+17  1.5847E+16
Kr-88                  1.0214E+03  8.1456E-08  5.5743E+17  2.3996E+16
Rb-86                  1.2172E+00  1.4959E-08  1.0475E+17  3.9174E+13
I-131                  4.9149E+02  3.9644E-06  1.8225E+19  1.5805E+16
I-132                  6.4836E+02  6.2813E-08  2.8657E+17  2.1501E+16
I-133                  1.0079E+03  8.8970E-07  4.0285E+18  3.2560E+16
I-134                  7.9109E+02  2.9655E-08  1.3327E+17  2.8813E+16
I-135                  9.1771E+02  2.6132E-07  1.1657E+18  2.9977E+16
Xe-133                 2.4794E+03  1.3246E-05  5.9977E+19  5.6502E+16
Xe-135                 1.2384E+03  4.8495E-07  2.1633E+18  2.8276E+16
Cs-134                 1.3963E+02  1.0792E-04  4.8501E+20  4.4929E+15
Cs-136                 4.0794E+01  5.5660E-07  2.4647E+18  1.3130E+15
Cs-137                 1.1247E+02  1.2930E-03  5.6837E+21  3.6189E+15

Reactor Building Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    5.3730E+20  0.0000E+00
Elemental I (atoms)    1.1535E+18  0.0000E+00
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Organic I (atoms)      9.0999E+16  0.0000E+00
Aerosols (kg)          1.4064E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0837E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.3719E-08
Total I (Ci)                                   3.8565E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      4.6375E+20
Elemental I (atoms)      9.5116E+17
Organic I (atoms)        7.8840E+16
Aerosols (kg)            1.1531E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0472E+19
Elemental I (atoms)    9.3074E+15  2.2830E+16
Organic I (atoms)      6.7360E+14  1.1046E+15
Aerosols (kg)          1.2346E-05  2.6712E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.5000  Leakage Transport

Noble gases (atoms)      8.4095E+19
Elemental I (atoms)      2.4070E+17
Organic I (atoms)        1.4283E+16
Aerosols (kg)            2.9239E-04

Exclusion Area Boundary Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1811E-04  1.0139E-03  1.6276E-04
Accumulated dose (rem)  8.0230E-03  1.2567E+00  6.4416E-02

Low Population Zone Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4544E-04  1.2485E-03  2.0043E-04
Accumulated dose (rem)  1.0050E-03  1.3319E-01  6.9796E-03

Control Room Doses:

Time (h) =   0.6667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5608E-04  7.1470E-01  3.2242E-02
Accumulated dose (rem)  5.7396E-04  2.5806E+00  1.1641E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
Co-58                  4.4404E+01  1.3965E-06  1.4499E+19  7.1815E+14
Co-60                  5.3160E+01  4.7028E-05  4.7202E+20  8.5972E+14
Kr-85                  2.2616E+05  5.7644E-01  4.0840E+24  5.8947E+18
Kr-85m                 3.2736E+06  3.9779E-04  2.8183E+21  8.7806E+19
Kr-87                  5.1038E+06  1.8018E-04  1.2472E+21  1.4756E+20
Kr-88                  8.4476E+06  6.7369E-04  4.6103E+21  2.3043E+20
Rb-86                  1.7252E+03  2.1203E-05  1.4847E+20  1.4462E+17
Sr-89                  7.9797E+04  2.7467E-03  1.8585E+22  1.2906E+18
Sr-90                  1.0844E+04  7.9494E-02  5.3192E+23  1.7537E+17
Sr-91                  9.4233E+04  2.5995E-05  1.7203E+20  1.5315E+18
Sr-92                  8.6438E+04  6.8769E-06  4.5015E+19  1.4224E+18
Y-90                   1.1793E+02  2.1676E-07  1.4504E+18  1.8629E+15
Y-91                   1.0055E+03  4.1001E-05  2.7134E+20  1.6255E+16
Y-92                   1.9517E+03  2.0283E-07  1.3277E+18  2.5295E+16
Y-93                   1.0718E+03  3.2126E-07  2.0803E+18  1.7415E+16
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Zr-95	1.1923E+03	5.5500E-05	3.5182E+20	1.9283E+16
Zr-97	1.1150E+03	5.8327E-07	3.6212E+18	1.8083E+16
Nb-95	1.1896E+03	3.0423E-05	1.9285E+20	1.9239E+16
Mo-99	1.4899E+04	3.1065E-05	1.8897E+20	2.4113E+17
Tc-99m	1.3265E+04	2.5226E-06	1.5345E+19	2.1442E+17
Ru-103	1.3170E+04	4.0808E-04	2.3859E+21	2.1301E+17
Ru-105	8.5864E+03	1.2773E-06	7.3261E+18	1.4034E+17
Ru-106	5.9432E+03	1.7764E-03	1.0092E+22	9.6116E+16
Rh-105	8.9485E+03	1.0602E-05	6.0805E+19	1.4471E+17
Sb-127	1.5105E+04	5.6564E-05	2.6822E+20	2.4442E+17
Sb-129	4.1973E+04	7.4639E-06	3.4844E+19	6.8622E+17
Te-127	1.4993E+04	5.6810E-06	2.6938E+19	2.4239E+17
Te-127m	2.5721E+03	2.7268E-04	1.2930E+21	4.1596E+16
Te-129	4.2405E+04	2.0249E-06	9.4527E+18	6.8685E+17
Te-129m	8.4193E+03	2.7947E-04	1.3047E+21	1.3616E+17
Te-131m	3.1105E+04	3.9008E-05	1.7932E+20	5.0384E+17
Te-132	2.2352E+05	7.3624E-04	3.3589E+21	3.6170E+18
I-131	8.5902E+05	6.9290E-03	3.1853E+22	6.1063E+19
I-132	1.2268E+06	1.1885E-04	5.4224E+20	8.7170E+19
I-133	1.7524E+06	1.5469E-03	7.0044E+21	1.2581E+20
I-134	1.2124E+06	4.5446E-05	2.0424E+20	1.1267E+20
I-135	1.5767E+06	4.4898E-04	2.0028E+21	1.1589E+20
Xe-133	2.1359E+07	1.1411E-01	5.1668E+23	5.5683E+20
Xe-135	1.0762E+07	4.2144E-03	1.8800E+22	2.7939E+20
Cs-134	1.9796E+05	1.5301E-01	6.8763E+23	1.6586E+19
Cs-136	5.7814E+04	7.8883E-04	3.4930E+21	4.8475E+18
Cs-137	1.5945E+05	1.8332E+00	8.0581E+24	1.3359E+19
Ba-139	8.6837E+04	5.3089E-06	2.3001E+19	1.4533E+18
Ba-140	1.1769E+05	1.6076E-03	6.9153E+21	1.9037E+18
La-140	1.2969E+03	2.3333E-06	1.0037E+19	2.0210E+16
La-141	9.8617E+02	1.7438E-07	7.4477E+17	1.6141E+16
La-142	8.0678E+02	5.6359E-08	2.3901E+17	1.3453E+16
Ce-141	2.7746E+03	9.7378E-05	4.1590E+20	4.4873E+16
Ce-143	2.6789E+03	4.0340E-06	1.6988E+19	4.3386E+16
Ce-144	2.2279E+03	6.9852E-04	2.9213E+21	3.6031E+16
Pr-143	1.0708E+03	1.5902E-05	6.6969E+19	1.7317E+16
Nd-147	4.3266E+02	5.3481E-06	2.1910E+19	6.9983E+15
Np-239	3.2109E+04	1.3841E-04	3.4874E+20	5.1971E+17
Pu-238	9.8711E+00	5.7659E-04	1.4590E+21	1.5964E+14
Pu-239	8.5935E-01	1.3826E-02	3.4837E+22	1.3898E+13
Pu-240	1.5966E+00	7.0065E-03	1.7581E+22	2.5820E+13
Pu-241	3.4185E+02	3.3185E-03	8.2924E+21	5.5286E+15
Am-241	2.4705E-01	7.1982E-05	1.7987E+20	3.9954E+12
Cm-242	6.0392E+01	1.8222E-05	4.5345E+19	9.7670E+14
Cm-244	4.2226E+00	5.2194E-05	1.2882E+20	6.8290E+13

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.6667	Atmosphere	Sump	
Noble gases (atoms)	4.6281E+24	0.0000E+00	
Elemental I (atoms)	2.0034E+21	1.2235E+22	
Organic I (atoms)	3.6193E+20	0.0000E+00	
Aerosols (kg)	2.1091E+00	1.4287E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.4789E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.6634E-04
Total I (Ci)			6.6273E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 0.6667 Leakage Transport

Noble gases (atoms)	1.1014E+21
Elemental I (atoms)	1.3223E+18
Organic I (atoms)	1.4154E+17
Aerosols (kg)	1.5565E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Pathway

Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1712E+24
Elemental I (atoms)	0.0000E+00	1.4171E+21
Organic I (atoms)	0.0000E+00	1.5062E+20
Aerosols (kg)	0.0000E+00	1.6686E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2105E+23
Elemental I (atoms)	0.0000E+00	6.2012E+20
Organic I (atoms)	0.0000E+00	4.9409E+19
Aerosols (kg)	0.0000E+00	7.4848E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	6.9316E-03	2.1799E-10	2.2634E+15	6.3984E+10
Co-60	8.2983E-03	7.3411E-09	7.3682E+16	7.6599E+10
Kr-85	6.2301E+01	1.5880E-04	1.1251E+21	1.5363E+15
Kr-85m	9.0181E+02	1.0958E-07	7.7638E+17	2.2789E+16
Kr-87	1.4060E+03	4.9636E-08	3.4358E+17	3.7865E+16
Kr-88	2.3271E+03	1.8559E-07	1.2700E+18	5.9657E+16
Rb-86	1.6737E+00	2.0570E-08	1.4404E+17	7.1405E+13
Sr-89	1.2456E+01	4.2876E-07	2.9012E+18	1.1498E+14
Sr-90	1.6927E+00	1.2409E-05	8.3033E+19	1.5625E+13
Sr-91	1.4710E+01	4.0579E-09	2.6854E+16	1.3625E+14
Sr-92	1.3493E+01	1.0735E-09	7.0268E+15	1.2607E+14
Y-90	1.9356E-02	3.5576E-11	2.3805E+14	1.7285E+11
Y-91	1.5712E-01	6.4068E-09	4.2399E+16	1.4494E+12
Y-92	4.4204E-01	4.5939E-11	3.0071E+14	3.2541E+12
Y-93	1.6731E-01	5.0149E-11	3.2473E+14	1.5494E+12
Zr-95	1.8612E-01	8.6635E-09	5.4919E+16	1.7180E+12
Zr-97	1.7406E-01	9.1050E-11	5.6527E+14	1.6098E+12
Nb-95	1.8570E-01	4.7490E-09	3.0104E+16	1.7141E+12
Mo-99	2.3258E+00	4.8493E-09	2.9498E+16	2.1479E+13
Tc-99m	2.0706E+00	3.9379E-10	2.3954E+15	1.9104E+13
Ru-103	2.0559E+00	6.3702E-08	3.7245E+17	1.8978E+13
Ru-105	1.3403E+00	1.9940E-10	1.1436E+15	1.2464E+13
Ru-106	9.2774E-01	2.7730E-07	1.5754E+18	8.5637E+12
Rh-105	1.3969E+00	1.6550E-09	9.4918E+15	1.2893E+13
Sb-127	2.3580E+00	8.8297E-09	4.1869E+16	2.1773E+13
Sb-129	6.5520E+00	1.1651E-09	5.4392E+15	6.0940E+13
Te-127	2.3404E+00	8.8681E-10	4.2051E+15	2.1596E+13
Te-127m	4.0150E-01	4.2565E-08	2.0184E+17	3.7061E+12
Te-129	6.6195E+00	3.1608E-10	1.4756E+15	6.1123E+13
Te-129m	1.3143E+00	4.3626E-08	2.0366E+17	1.2131E+13
Te-131m	4.8556E+00	6.0892E-09	2.7993E+16	4.4869E+13
Te-132	3.4891E+01	1.1493E-07	5.2433E+17	3.2221E+14
I-131	7.0111E+02	5.6552E-06	2.5997E+19	2.9054E+16
I-132	9.0546E+02	8.7720E-08	4.0020E+17	3.8782E+16
I-133	1.4305E+03	1.2628E-06	5.7179E+18	5.9657E+16
I-134	9.8968E+02	3.7099E-08	1.6673E+17	4.8720E+16
I-135	1.2871E+03	3.6651E-07	1.6350E+18	5.4495E+16
Xe-133	5.8814E+03	3.1421E-05	1.4227E+20	1.4508E+17
Xe-135	2.9362E+03	1.1498E-06	5.1290E+18	7.2497E+16
Cs-134	1.9205E+02	1.4843E-04	6.6709E+20	8.1909E+15
Cs-136	5.6087E+01	7.6527E-07	3.3886E+18	2.3932E+15
Cs-137	1.5469E+02	1.7784E-03	7.8174E+21	6.5975E+15
Ba-139	1.3555E+01	8.2872E-10	3.5904E+15	1.2815E+14
Ba-140	1.8372E+01	2.5095E-07	1.0795E+18	1.6960E+14
La-140	2.1878E-01	3.9361E-10	1.6931E+15	1.9191E+12
La-141	1.5394E-01	2.7220E-11	1.1626E+14	1.4329E+12
La-142	1.2594E-01	8.7977E-12	3.7310E+13	1.1876E+12
Ce-141	4.3311E-01	1.5200E-08	6.4921E+16	3.9980E+12
Ce-143	4.1818E-01	6.2971E-10	2.6519E+15	3.8639E+12

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Ce-144                 3.4778E-01  1.0904E-07  4.5601E+17  3.2103E+12
Pr-143                 1.6719E-01  2.4828E-09  1.0456E+16  1.5431E+12
Nd-147                 6.7538E-02  8.3485E-10  3.4201E+15  6.2350E+11
Np-239                 5.0123E+00  2.1605E-08  5.4439E+16  4.6293E+13
Pu-238                 1.5409E-03  9.0006E-08  2.2774E+17  1.4223E+10
Pu-239                 1.3415E-04  2.1582E-06  5.4380E+18  1.2383E+09
Pu-240                 2.4922E-04  1.0937E-06  2.7444E+18  2.3005E+09
Pu-241                 5.3363E-02  5.1803E-07  1.2945E+18  4.9258E+11
Am-241                 3.8566E-05  1.1237E-08  2.8078E+16  3.5599E+08
Cm-242                 9.4273E-03  2.8444E-09  7.0783E+15  8.7021E+10
Cm-244                 6.5915E-04  8.1475E-09  2.0109E+16  6.0844E+09

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    1.2748E+21  0.0000E+00
Elemental I (atoms)    1.6393E+18  0.0000E+00
Organic I (atoms)      1.6737E+17  0.0000E+00
Aerosols (kg)          1.9524E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5426E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.9464E-08
Total I (Ci)                                   5.3139E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      1.1014E+21
Elemental I (atoms)      1.3223E+18
Organic I (atoms)        1.4154E+17
Aerosols (kg)            1.5565E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6956E+19
Elemental I (atoms)    3.3655E+16  2.5535E+16
Organic I (atoms)      2.9002E+15  1.3520E+15
Aerosols (kg)          4.4333E-05  2.7365E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   0.6667  Leakage Transport

Noble gases (atoms)      2.0062E+20
Elemental I (atoms)      3.8738E+17
Organic I (atoms)        3.0875E+16
Aerosols (kg)            4.6757E-04

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1388E-02  2.4424E-02  1.2692E-02
Accumulated dose (rem)  1.9411E-02  1.2812E+00  7.7107E-02

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.4023E-02  3.0076E-02  1.5629E-02
Accumulated dose (rem)  1.5028E-02  1.6326E-01  2.2609E-02

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6789E-04  1.5437E+00  6.9859E-02
Accumulated dose (rem)  1.0419E-03  4.1243E+00  1.8627E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0848E+01	1.5991E-06	1.6603E+19	9.5333E+15
Co-60	6.0906E+01	5.3880E-05	5.4079E+20	1.1416E+16
Kr-85	1.1636E+06	2.9658E+00	2.1013E+25	1.3324E+20
Kr-85m	1.3703E+07	1.6651E-03	1.1797E+22	1.7165E+21
Kr-87	1.2696E+07	4.4821E-04	3.1025E+21	2.0319E+21
Kr-88	3.1390E+07	2.5034E-03	1.7131E+22	4.1490E+21
Rb-86	1.7995E+03	2.2116E-05	1.5487E+20	4.6144E+17
Sr-89	9.1356E+04	3.1446E-03	2.1277E+22	1.7130E+19
Sr-90	1.2424E+04	9.1078E-02	6.0943E+23	2.3286E+18
Sr-91	9.7957E+04	2.7023E-05	1.7883E+20	1.9351E+19
Sr-92	7.0418E+04	5.6023E-06	3.6672E+19	1.5933E+19
Y-90	1.4140E+02	2.5989E-07	1.7390E+18	2.5743E+16
Y-91	1.1524E+03	4.6993E-05	3.1099E+20	2.1595E+17
Y-92	2.5181E+03	2.6169E-07	1.7130E+18	4.3340E+17
Y-93	1.1206E+03	3.3589E-07	2.1750E+18	2.2068E+17
Zr-95	1.3652E+03	6.3549E-05	4.0284E+20	2.5597E+17
Zr-97	1.2095E+03	6.3271E-07	3.9281E+18	2.3348E+17
Nb-95	1.3630E+03	3.4856E-05	2.2095E+20	2.5547E+17
Mo-99	1.6833E+04	3.5097E-05	2.1350E+20	3.1789E+18
Tc-99m	1.5159E+04	2.8828E-06	1.7536E+19	2.8439E+18
Ru-103	1.5075E+04	4.6709E-04	2.7310E+21	2.8270E+18
Ru-105	7.9890E+03	1.1885E-06	6.8164E+18	1.6775E+18
Ru-106	6.8086E+03	2.0351E-03	1.1562E+22	1.2762E+18
Rh-105	1.0217E+04	1.2105E-05	6.9426E+19	1.9191E+18
Sb-127	1.7135E+04	6.4162E-05	3.0424E+20	3.2288E+18
Sb-129	3.8827E+04	6.9046E-06	3.2233E+19	8.1791E+18
Te-127	1.7162E+04	6.5031E-06	3.0836E+19	3.2173E+18
Te-127m	2.9469E+03	3.1242E-04	1.4815E+21	5.5234E+17
Te-129	4.3462E+04	2.0753E-06	9.6882E+18	8.6600E+18
Te-129m	9.6461E+03	3.2020E-04	1.4948E+21	1.8080E+18
Te-131m	3.4557E+04	4.3337E-05	1.9922E+20	6.5852E+18
Te-132	2.5308E+05	8.3362E-04	3.8032E+21	4.7737E+19
I-131	9.2665E+05	7.4745E-03	3.4361E+22	2.2249E+20
I-132	1.3070E+06	1.2662E-04	5.7766E+20	3.1632E+20
I-133	1.8156E+06	1.6027E-03	7.2570E+21	4.4849E+20
I-134	4.5760E+05	1.7153E-05	7.7090E+19	2.5304E+20
I-135	1.4850E+06	4.2285E-04	1.8863E+21	3.9278E+20
Xe-133	1.0954E+08	5.8518E-01	2.6497E+24	1.2560E+22
Xe-135	5.4440E+07	2.1318E-02	9.5096E+22	6.2905E+21
Cs-134	2.0690E+05	1.5992E-01	7.1868E+23	5.2976E+19
Cs-136	6.0251E+04	8.2208E-04	3.6402E+21	1.5460E+19
Cs-137	1.6666E+05	1.9161E+00	8.4225E+24	4.2672E+19
Ba-139	5.0885E+04	3.1109E-06	1.3478E+19	1.3961E+19
Ba-140	1.3444E+05	1.8364E-03	7.8991E+21	2.5239E+19
La-140	1.5940E+03	2.8678E-06	1.2336E+19	2.8571E+17
La-141	8.9311E+02	1.5792E-07	6.7449E+17	1.9038E+17
La-142	5.0757E+02	3.5457E-08	1.5037E+17	1.3347E+17
Ce-141	3.1781E+03	1.1154E-04	4.7639E+20	5.9578E+17
Ce-143	2.9845E+03	4.4942E-06	1.8927E+19	5.6787E+17
Ce-144	2.5523E+03	8.0021E-04	3.3465E+21	4.7841E+17
Pr-143	1.2270E+03	1.8222E-05	7.6737E+19	2.2997E+17
Nd-147	4.9397E+02	6.1061E-06	2.5015E+19	9.2760E+16
Np-239	3.6192E+04	1.5600E-04	3.9309E+20	6.8432E+18
Pu-238	1.1310E+01	6.6063E-04	1.6716E+21	2.1198E+15
Pu-239	9.8474E-01	1.5843E-02	3.9920E+22	1.8456E+14
Pu-240	1.8292E+00	8.0276E-03	2.0143E+22	3.4285E+14
Pu-241	3.9167E+02	3.8021E-03	9.5008E+21	7.3411E+16
Am-241	2.8310E-01	8.2484E-05	2.0611E+20	5.3057E+13
Cm-242	6.9177E+01	2.0872E-05	5.1940E+19	1.2968E+16
Cm-244	4.8379E+00	5.9799E-05	1.4759E+20	9.0679E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump
Noble gases (atoms)	2.3789E+25	0.0000E+00
Elemental I (atoms)	2.0884E+21	5.3876E+22
Organic I (atoms)	1.1644E+21	0.0000E+00

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Aerosols (kg)          2.2158E+00  5.8129E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.7585E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.9121E-04
Total I (Ci)                                   5.9918E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.5423E+22
Elemental I (atoms)      4.7923E+18
Organic I (atoms)        1.4347E+18
Aerosols (kg)            5.2101E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6977E+25
Elemental I (atoms)    0.0000E+00  5.0990E+21
Organic I (atoms)      0.0000E+00  1.5228E+21
Aerosols (kg)          0.0000E+00  5.5452E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5599E+25
Elemental I (atoms)    0.0000E+00  3.7289E+21
Organic I (atoms)      0.0000E+00  9.3441E+20
Aerosols (kg)          0.0000E+00  4.1188E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg          Atoms       Decay
Co-58                  1.1902E-01  3.7431E-09  3.8865E+16  1.0914E+13
Co-60                  1.4257E-01  1.2612E-07  1.2659E+18  1.3071E+13
Kr-85                  1.6156E+03  4.1178E-03  2.9174E+22  1.1937E+17
Kr-85m                 1.9026E+04  2.3119E-06  1.6379E+19  1.5017E+18
Kr-87                  1.7627E+04  6.2230E-07  4.3075E+18  1.6643E+18
Kr-88                  4.3582E+04  3.4757E-06  2.3785E+19  3.5781E+18
Rb-86                  5.7884E+00  7.1139E-08  4.9815E+17  7.3670E+14
Sr-89                  2.1384E+02  7.3607E-06  4.9806E+19  1.9611E+16
Sr-90                  2.9081E+01  2.1319E-04  1.4265E+21  2.6662E+15
Sr-91                  2.2930E+02  6.3254E-08  4.1860E+17  2.1753E+16
Sr-92                  1.6483E+02  1.3114E-08  8.5840E+16  1.7081E+16
Y-90                   5.5379E-01  1.0179E-09  6.8109E+15  4.3670E+13
Y-91                   2.7328E+00  1.1144E-07  7.3745E+17  2.4951E+14
Y-92                   2.9672E+01  3.0836E-09  2.0185E+16  2.1267E+15
Y-93                   2.6232E+00  7.8624E-10  5.0912E+15  2.4835E+14
Zr-95                  3.1957E+00  1.4875E-07  9.4296E+17  2.9304E+14
Zr-97                  2.8312E+00  1.4810E-09  9.1948E+15  2.6459E+14
Nb-95                  3.1904E+00  8.1590E-08  5.1720E+17  2.9250E+14
Mo-99                  3.9403E+01  8.2155E-08  4.9974E+17  3.6302E+15
Tc-99m                 3.5483E+01  6.7480E-09  4.1048E+16  3.2546E+15
Ru-103                 3.5287E+01  1.0934E-06  6.3925E+18  3.2362E+15
Ru-105                 1.8700E+01  2.7820E-09  1.5956E+16  1.8459E+15
Ru-106                 1.5937E+01  4.7637E-06  2.7064E+19  1.4612E+15
Rh-105                 2.3916E+01  2.8335E-08  1.6251E+17  2.1959E+15
Sb-127                 4.0108E+01  1.5019E-07  7.1217E+17  3.6900E+15
Sb-129                 9.0886E+01  1.6162E-08  7.5450E+16  8.9902E+15
Te-127                 4.0173E+01  1.5222E-08  7.2181E+16  3.6831E+15
Te-127m                6.8981E+00  7.3130E-07  3.4677E+18  6.3242E+14
Te-129                 1.0173E+02  4.8578E-09  2.2678E+16  9.7117E+15
Te-129m                2.2579E+01  7.4951E-07  3.4989E+18  2.0701E+15
Te-131m                8.0890E+01  1.0144E-07  4.6633E+17  7.4964E+15
Te-132                 5.9241E+02  1.9513E-06  8.9023E+18  5.4537E+16
I-131                  2.7824E+03  2.2443E-05  1.0317E+20  3.3787E+17
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I-132                  3.1260E+03  3.0285E-07  1.3817E+18  4.0563E+17
I-133                  5.4540E+03  4.8145E-06  2.1800E+19  6.7480E+17
I-134                  1.3746E+03  5.1528E-08  2.3158E+17  2.9064E+17
I-135                  4.4608E+03  1.2702E-06  5.6663E+18  5.7748E+17
Xe-133                 1.5184E+05  8.1118E-04  3.6730E+21  1.1235E+19
Xe-135                 7.3193E+04  2.8661E-05  1.2785E+20  5.4879E+18
Cs-134                 6.6553E+02  5.1439E-04  2.3117E+21  8.4622E+16
Cs-136                 1.9381E+02  2.6443E-06  1.1709E+19  2.4677E+16
Cs-137                 5.3609E+02  6.1633E-03  2.7092E+22  6.8162E+16
Ba-139                 1.1911E+02  7.2819E-09  3.1549E+16  1.3995E+16
Ba-140                 3.1469E+02  4.2985E-06  1.8490E+19  2.8881E+16
La-140                 7.5542E+00  1.3591E-08  5.8461E+16  5.7102E+14
La-141                 2.0906E+00  3.6966E-10  1.5788E+15  2.0839E+14
La-142                 1.1881E+00  8.2996E-11  3.5198E+14  1.3579E+14
Ce-141                 7.4371E+00  2.6101E-07  1.1148E+18  6.8197E+14
Ce-143                 6.9861E+00  1.0520E-08  4.4303E+16  6.4679E+14
Ce-144                 5.9743E+00  1.8731E-06  7.8334E+18  5.4775E+14
Pr-143                 2.8787E+00  4.2749E-08  1.8003E+17  2.6372E+14
Nd-147                 1.1563E+00  1.4293E-08  5.8554E+16  1.0614E+14
Np-239                 8.4716E+01  3.6517E-07  9.2012E+17  7.8113E+15
Pu-238                 2.6473E-02  1.5464E-06  3.9128E+18  2.4271E+12
Pu-239                 2.3051E-03  3.7085E-05  9.3443E+19  2.1132E+11
Pu-240                 4.2818E-03  1.8791E-05  4.7150E+19  3.9256E+11
Pu-241                 9.1680E-01  8.8999E-06  2.2239E+19  8.4053E+13
Am-241                 6.6274E-04  1.9310E-07  4.8251E+17  6.0755E+10
Cm-242                 1.6193E-01  4.8857E-08  1.2158E+17  1.4847E+13
Cm-244                 1.1324E-02  1.3998E-07  3.4547E+17  1.0382E+12

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    3.3019E+22  0.0000E+00
Elemental I (atoms)    6.3335E+18  0.0000E+00
Organic I (atoms)      1.8586E+18  0.0000E+00
Aerosols (kg)          7.0119E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.0260E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.4512E-08
Total I (Ci)                                   1.7198E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      2.5423E+22
Elemental I (atoms)      4.7923E+18
Organic I (atoms)        1.4347E+18
Aerosols (kg)            5.2101E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1305E+21
Elemental I (atoms)    5.9429E+17  8.7828E+16
Organic I (atoms)      1.2404E+17  1.4812E+16
Aerosols (kg)          7.3028E-04  4.1364E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.0000  Leakage Transport

Noble gases (atoms)      9.7491E+21
Elemental I (atoms)      2.3304E+18
Organic I (atoms)        5.8400E+17
Aerosols (kg)            2.5740E-03

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1773E-03  6.1580E-03  4.5201E-03
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Accumulated dose (rem)	2.3588E-02	1.2873E+00	8.1627E-02

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2126E-03	3.2617E-03	2.3942E-03
Accumulated dose (rem)	1.7241E-02	1.6653E-01	2.5003E-02

Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.8013E-05	5.5267E-02	2.5735E-03
Accumulated dose (rem)	1.1199E-03	4.1796E+00	1.8885E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1045E+00	1.6053E-07	1.6668E+18	9.7732E+15
Co-60	6.1147E+00	5.4094E-06	5.4294E+19	1.1703E+16
Kr-85	1.1002E+06	2.8044E+00	1.9868E+25	1.6290E+20
Kr-85m	1.2562E+07	1.5265E-03	1.0815E+22	2.0605E+21
Kr-87	1.0765E+07	3.8003E-04	2.6306E+21	2.3386E+21
Kr-88	2.8267E+07	2.2543E-03	1.5427E+22	4.9302E+21
Rb-86	1.8478E+02	2.2709E-06	1.5902E+19	4.7004E+17
Sr-89	9.1708E+03	3.1567E-04	2.1359E+21	1.7561E+19
Sr-90	1.2473E+03	9.1439E-03	6.1185E+22	2.3872E+18
Sr-91	9.6921E+03	2.6737E-06	1.7694E+19	1.9811E+19
Sr-92	6.7172E+03	5.3441E-07	3.4981E+18	1.6259E+19
Y-90	1.9787E+01	3.6369E-08	2.4335E+17	2.6504E+16
Y-91	1.1655E+02	4.7526E-06	3.1452E+19	2.2140E+17
Y-92	8.0801E+02	8.3972E-08	5.4967E+17	4.5489E+17
Y-93	1.1097E+02	3.3263E-08	2.1539E+17	2.2594E+17
Zr-95	1.3705E+02	6.3796E-06	4.0441E+19	2.6241E+17
Zr-97	1.2044E+02	6.3003E-08	3.9115E+17	2.3917E+17
Nb-95	1.3684E+02	3.4994E-06	2.2183E+19	2.6190E+17
Mo-99	1.6865E+03	3.5163E-06	2.1389E+19	3.2582E+18
Tc-99m	1.5212E+03	2.8931E-07	1.7598E+18	2.9150E+18
Ru-103	1.5132E+03	4.6887E-05	2.7414E+20	2.8981E+18
Ru-105	7.7742E+02	1.1565E-07	6.6331E+17	1.7147E+18
Ru-106	6.8355E+02	2.0431E-04	1.1608E+21	1.3083E+18
Rh-105	1.0248E+03	1.2142E-06	6.9639E+18	1.9672E+18
Sb-127	1.7177E+03	6.4320E-06	3.0499E+19	3.3096E+18
Sb-129	3.7750E+03	6.7131E-07	3.1339E+18	8.3600E+18
Te-127	1.7228E+03	6.5279E-07	3.0954E+18	3.2980E+18
Te-127m	2.9586E+02	3.1366E-05	1.4873E+20	5.6625E+17
Te-129	4.2876E+03	2.0474E-07	9.5577E+17	8.8586E+18
Te-129m	9.6841E+02	3.2146E-05	1.5007E+20	1.8535E+18
Te-131m	3.4534E+03	4.3308E-06	1.9909E+19	6.7479E+18
Te-132	2.5364E+04	8.3545E-05	3.8115E+20	4.8930E+19
I-131	1.1541E+05	9.3095E-04	4.2796E+21	2.2741E+20
I-132	1.4785E+05	1.4324E-05	6.5349E+19	3.2292E+20
I-133	2.2481E+05	1.9845E-04	8.9858E+20	4.5812E+20
I-134	4.8697E+04	1.8254E-06	8.2038E+18	2.5532E+20
I-135	1.8126E+05	5.1614E-05	2.3024E+20	4.0061E+20
Xe-133	1.0344E+08	5.5264E-01	2.5023E+24	1.5351E+22
Xe-135	5.0569E+07	1.9802E-02	8.8333E+22	7.6650E+21
Cs-134	2.1252E+04	1.6426E-02	7.3819E+22	5.3965E+19
Cs-136	6.1860E+03	8.4403E-05	3.7374E+20	1.5748E+19
Cs-137	1.7119E+04	1.9681E-01	8.6511E+23	4.3468E+19
Ba-139	4.6199E+03	2.8244E-07	1.2237E+18	1.4192E+19
Ba-140	1.3491E+04	1.8428E-04	7.9269E+20	2.5873E+19
La-140	2.5598E+02	4.6054E-07	1.9810E+18	2.9485E+17
La-141	8.6557E+01	1.5305E-08	6.5370E+16	1.9453E+17
La-142	4.6576E+01	3.2536E-09	1.3798E+16	1.3578E+17
Ce-141	3.1901E+02	1.1196E-05	4.7817E+19	6.1077E+17
Ce-143	2.9838E+02	4.4932E-07	1.8922E+18	5.8193E+17
Ce-144	2.5623E+02	8.0337E-05	3.3597E+20	4.9045E+17

Pr-143	1.2335E+02	1.8318E-06	7.7141E+18	2.3576E+17
Nd-147	4.9567E+01	6.1271E-07	2.5101E+18	9.5091E+16
Np-239	3.6246E+03	1.5624E-05	3.9368E+19	7.0138E+18
Pu-238	1.1355E+00	6.6325E-05	1.6782E+20	2.1732E+15
Pu-239	9.8867E-02	1.5906E-03	4.0079E+21	1.8920E+14
Pu-240	1.8365E-01	8.0594E-04	2.0223E+21	3.5148E+14
Pu-241	3.9322E+01	3.8172E-04	9.5385E+20	7.5259E+16
Am-241	2.8424E-02	8.2818E-06	2.0695E+19	5.4393E+13
Cm-242	6.9449E+00	2.0954E-06	5.2145E+18	1.3294E+16
Cm-244	4.8571E-01	6.0037E-06	1.4818E+19	9.2961E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump
Noble gases (atoms)	2.2488E+25	0.0000E+00
Elemental I (atoms)	2.1265E+20	5.5928E+22
Organic I (atoms)	1.1040E+21	0.0000E+00
Aerosols (kg)	2.2728E-01	6.0309E+01

Dose Effective (Ci/cc) I-131 (Thyroid)	5.9110E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)	7.3136E-05
Total I (Ci)	7.1803E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Leakage Transport
Noble gases (atoms)	3.1190E+22
Elemental I (atoms)	4.9634E+18
Organic I (atoms)	1.7177E+18
Aerosols (kg)	5.3918E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3097E+25
Elemental I (atoms)	0.0000E+00	5.2805E+21
Organic I (atoms)	0.0000E+00	1.8230E+21
Aerosols (kg)	0.0000E+00	5.7380E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0428E+25
Elemental I (atoms)	0.0000E+00	4.2143E+21
Organic I (atoms)	0.0000E+00	1.1784E+21
Aerosols (kg)	0.0000E+00	4.6375E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	1.2764E-01	4.0140E-09	4.1677E+16	1.4276E+13
Co-60	1.5289E-01	1.3526E-07	1.3576E+18	1.7098E+13
Kr-85	2.0029E+03	5.1050E-03	3.6168E+22	1.7016E+17
Kr-85m	2.2868E+04	2.7788E-06	1.9687E+19	2.0905E+18
Kr-87	1.9596E+04	6.9180E-07	4.7886E+18	2.1886E+18
Kr-88	5.1457E+04	4.1036E-06	2.8083E+19	4.9146E+18
Rb-86	6.0656E+00	7.4546E-08	5.2200E+17	8.9714E+14
Sr-89	2.2931E+02	7.8931E-06	5.3408E+19	2.5651E+16
Sr-90	3.1188E+01	2.2864E-04	1.5299E+21	3.4877E+15
Sr-91	2.4235E+02	6.6854E-08	4.4242E+17	2.8183E+16
Sr-92	1.6796E+02	1.3363E-08	8.7469E+16	2.1620E+16
Y-90	6.4618E-01	1.1877E-09	7.9471E+15	5.9435E+13
Y-91	2.9385E+00	1.1982E-07	7.9294E+17	3.2672E+14
Y-92	3.5838E+01	3.7245E-09	2.4380E+16	2.9610E+15
Y-93	2.7749E+00	8.3171E-10	5.3857E+15	3.2194E+14
Zr-95	3.4269E+00	1.5952E-07	1.0112E+18	3.8331E+14
Zr-97	3.0116E+00	1.5754E-09	9.7804E+15	3.4424E+14

Nb-95	3.4216E+00	8.7501E-08	5.5468E+17	3.8262E+14
Mo-99	4.2169E+01	8.7922E-08	5.3483E+17	4.7421E+15
Tc-99m	3.8038E+01	7.2340E-09	4.4004E+16	4.2511E+15
Ru-103	3.7838E+01	1.1724E-06	6.8547E+18	4.2330E+15
Ru-105	1.9439E+01	2.8918E-09	1.6586E+16	2.3660E+15
Ru-106	1.7092E+01	5.1088E-06	2.9024E+19	1.9114E+15
Rh-105	2.5626E+01	3.0360E-08	1.7413E+17	2.8707E+15
Sb-127	4.2949E+01	1.6083E-07	7.6262E+17	4.8221E+15
Sb-129	9.4393E+01	1.6786E-08	7.8361E+16	1.1517E+16
Te-127	4.3077E+01	1.6323E-08	7.7399E+16	4.8137E+15
Te-127m	7.3979E+00	7.8429E-07	3.7190E+18	8.2728E+14
Te-129	1.0721E+02	5.1193E-09	2.3899E+16	1.2489E+16
Te-129m	2.4215E+01	8.0380E-07	3.7524E+18	2.7079E+15
Te-131m	8.6351E+01	1.0829E-07	4.9782E+17	9.7761E+15
Te-132	6.3420E+02	2.0890E-06	9.5304E+18	7.1256E+16
I-131	2.9310E+03	2.3642E-05	1.0868E+20	4.1531E+17
I-132	3.1819E+03	3.0826E-07	1.4063E+18	4.9129E+17
I-133	5.7110E+03	5.0414E-06	2.2827E+19	8.2615E+17
I-134	1.2371E+03	4.6373E-08	2.0840E+17	3.2603E+17
I-135	4.6047E+03	1.3112E-06	5.8490E+18	7.0039E+17
Xe-133	1.8809E+05	1.0049E-03	4.5499E+21	1.6007E+19
Xe-135	8.9934E+04	3.5217E-05	1.5710E+20	7.7818E+18
Cs-134	6.9761E+02	5.3919E-04	2.4232E+21	1.0307E+17
Cs-136	2.0306E+02	2.7706E-06	1.2268E+19	3.0048E+16
Cs-137	5.6194E+02	6.4604E-03	2.8398E+22	8.3024E+16
Ba-139	1.1552E+02	7.0623E-09	3.0597E+16	1.7196E+16
Ba-140	3.3733E+02	4.6078E-06	1.9821E+19	3.7769E+16
La-140	8.9948E+00	1.6183E-08	6.9610E+16	7.8643E+14
La-141	2.1643E+00	3.8270E-10	1.6345E+15	2.6641E+14
La-142	1.1646E+00	8.1355E-11	3.4502E+14	1.6787E+14
Ce-141	7.9751E+00	2.7989E-07	1.1954E+18	8.9205E+14
Ce-143	7.4609E+00	1.1235E-08	4.7313E+16	8.4372E+14
Ce-144	6.4070E+00	2.0088E-06	8.4008E+18	7.1652E+14
Pr-143	3.0887E+00	4.5868E-08	1.9316E+17	3.4503E+14
Nd-147	1.2394E+00	1.5320E-08	6.2763E+16	1.3879E+14
Np-239	9.0632E+01	3.9067E-07	9.8437E+17	1.0201E+16
Pu-238	2.8391E-02	1.6584E-06	4.1963E+18	3.1749E+12
Pu-239	2.4721E-03	3.9773E-05	1.0022E+20	2.7643E+11
Pu-240	4.5920E-03	2.0152E-05	5.0566E+19	5.1351E+11
Pu-241	9.8323E-01	9.5447E-06	2.3850E+19	1.0995E+14
Am-241	7.1079E-04	2.0710E-07	5.1749E+17	7.9477E+10
Cm-242	1.7365E-01	5.2395E-08	1.3038E+17	1.9421E+13
Cm-244	1.2145E-02	1.5012E-07	3.7051E+17	1.3581E+12

Reactor Building Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	4.0928E+22	0.0000E+00	
Elemental I (atoms)	6.6415E+18	0.0000E+00	
Organic I (atoms)	2.2388E+18	0.0000E+00	
Aerosols (kg)	7.3573E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		6.3332E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.8106E-08
Total I (Ci)			1.7666E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

Noble gases (atoms)	3.1190E+22
Elemental I (atoms)	4.9634E+18
Organic I (atoms)	1.7177E+18
Aerosols (kg)	5.3918E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9985E+21

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Elemental I (atoms)    7.3234E+17  1.0317E+17
Organic I (atoms)      1.6736E+17  1.9626E+16
Aerosols (kg)          8.9657E-04  4.4758E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.2000  Leakage Transport

Noble gases (atoms)      1.2768E+22
Elemental I (atoms)      2.6337E+18
Organic I (atoms)        7.3649E+17
Aerosols (kg)            2.8982E-03

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3363E-03  3.1675E-03  2.5127E-03
Accumulated dose (rem)  2.5924E-02  1.2905E+00  8.4140E-02

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2375E-03  1.6777E-03  1.3309E-03
Accumulated dose (rem)  1.8478E-02  1.6820E-01  2.6334E-02

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.7199E-05  2.1586E-02  1.0129E-03
Accumulated dose (rem)  1.1571E-03  4.2011E+00  1.8986E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  3.1706E+00  9.9709E-08  1.0353E+18  9.8154E+15
Co-60                  3.7981E+00  3.3600E-06  3.3724E+19  1.1754E+16
Kr-85                  1.0812E+06  2.7559E+00  1.9525E+25  1.7730E+20
Kr-85m                 1.2156E+07  1.4771E-03  1.0465E+22  2.2237E+21
Kr-87                  1.0017E+07  3.5365E-04  2.4480E+21  2.4758E+21
Kr-88                  2.7109E+07  2.1619E-03  1.4795E+22  5.2957E+21
Rb-86                  1.1579E+02  1.4231E-06  9.9653E+18  4.7158E+17
Sr-89                  5.6961E+03  1.9607E-04  1.3267E+21  1.7637E+19
Sr-90                  7.7476E+02  5.6798E-03  3.8005E+22  2.3975E+18
Sr-91                  5.9765E+03  1.6487E-06  1.0911E+19  1.9891E+19
Sr-92                  4.0670E+03  3.2356E-07  2.1180E+18  1.6314E+19
Y-90                   1.3841E+01  2.5441E-08  1.7023E+17  2.6678E+16
Y-91                   7.2632E+01  2.9617E-06  1.9600E+19  2.2237E+17
Y-92                   6.4535E+02  6.7068E-08  4.3901E+17  4.6248E+17
Y-93                   6.8461E+01  2.0520E-08  1.3287E+17  2.2686E+17
Zr-95                  8.5126E+01  3.9625E-06  2.5119E+19  2.6354E+17
Zr-97                  7.4506E+01  3.8974E-08  2.4197E+17  2.4016E+17
Nb-95                  8.4997E+01  2.1737E-06  1.3779E+19  2.6303E+17
Mo-99                  1.0464E+03  2.1818E-06  1.3272E+19  3.2722E+18
Tc-99m                 9.4472E+02  1.7966E-07  1.0929E+18  2.9275E+18
Ru-103                 9.3988E+02  2.9122E-05  1.7027E+20  2.9106E+18
Ru-105                 4.7541E+02  7.0725E-08  4.0563E+17  1.7211E+18
Ru-106                 4.2458E+02  1.2691E-04  7.2100E+20  1.3140E+18
Rh-105                 6.3628E+02  7.5383E-07  4.3235E+18  1.9757E+18
Sb-127                 1.0661E+03  3.9922E-06  1.8931E+19  3.3238E+18
Sb-129                 2.3075E+03  4.1035E-07  1.9156E+18  8.3910E+18
Te-127                 1.0700E+03  4.0545E-07  1.9226E+18  3.3122E+18
Te-127m                1.8378E+02  1.9483E-05  9.2386E+19  5.6870E+17
Te-129                 2.6392E+03  1.2602E-07  5.8831E+17  8.8931E+18
Te-129m                6.0152E+02  1.9967E-05  9.3214E+19  1.8615E+18
Te-131m                2.1402E+03  2.6839E-06  1.2338E+19  6.7765E+18
Te-132                 1.5741E+04  5.1848E-05  2.3654E+20  4.9140E+19
I-131                  8.0527E+04  6.4954E-04  2.9860E+21  2.2848E+20
I-132                  9.8764E+04  9.5682E-06  4.3652E+19  3.2425E+20
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I-133                  1.5639E+05  1.3806E-04  6.2511E+20  4.6021E+20
I-134                  3.1406E+04  1.1773E-06  5.2908E+18  2.5576E+20
I-135                  1.2520E+05  3.5650E-05  1.5903E+20  4.0229E+20
Xe-133                 1.0160E+08  5.4276E-01  2.4576E+24  1.6705E+22
Xe-135                 4.9277E+07  1.9296E-02  8.6077E+22  8.3239E+21
Cs-134                 1.3320E+04  1.0295E-02  4.6266E+22  5.4143E+19
Cs-136                 3.8762E+03  5.2888E-05  2.3419E+20  1.5799E+19
Cs-137                 1.0729E+04  1.2335E-01  5.4222E+23  4.3611E+19
Ba-139                 2.7289E+03  1.6683E-07  7.2281E+17  1.4229E+19
Ba-140                 8.3780E+03  1.1444E-04  4.9227E+20  2.5984E+19
La-140                 1.8557E+02  3.3387E-07  1.4362E+18  2.9713E+17
La-141                 5.2825E+01  9.3407E-09  3.9894E+16  1.9524E+17
La-142                 2.7659E+01  1.9321E-09  8.1941E+15  1.3616E+17
Ce-141                 1.9813E+02  6.9536E-06  2.9699E+19  6.1341E+17
Ce-143                 1.8495E+02  2.7851E-07  1.1729E+18  5.8440E+17
Ce-144                 1.5916E+02  4.9901E-05  2.0869E+20  4.9257E+17
Pr-143                 7.6663E+01  1.1385E-06  4.7944E+18  2.3678E+17
Nd-147                 3.0781E+01  3.8048E-07  1.5587E+18  9.5501E+16
Np-239                 2.2487E+03  9.6929E-06  2.4423E+19  7.0438E+18
Pu-238                 7.0529E-01  4.1198E-05  1.0424E+20  2.1825E+15
Pu-239                 6.1412E-02  9.8803E-04  2.4896E+21  1.9002E+14
Pu-240                 1.1407E-01  5.0061E-04  1.2561E+21  3.5300E+14
Pu-241                 2.4425E+01  2.3711E-04  5.9248E+20  7.5585E+16
Am-241                 1.7657E-02  5.1444E-06  1.2855E+19  5.4628E+13
Cm-242                 4.3137E+00  1.3016E-06  3.2389E+18  1.3351E+16
Cm-244                 3.0170E-01  3.7292E-06  9.2040E+18  9.3363E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    2.2096E+25  0.0000E+00
Elemental I (atoms)    1.3279E+20  5.6172E+22
Organic I (atoms)      1.0852E+21  0.0000E+00
Aerosols (kg)          1.4238E-01  6.0571E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.1189E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0868E-05
Total I (Ci)                                   4.9229E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   2.3000  Leakage Transport

Noble gases (atoms)      3.3975E+22
Elemental I (atoms)      4.9837E+18
Organic I (atoms)        1.8546E+18
Aerosols (kg)            5.4136E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6052E+25
Elemental I (atoms)    0.0000E+00  5.3021E+21
Organic I (atoms)      0.0000E+00  1.9683E+21
Aerosols (kg)          0.0000E+00  5.7611E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2998E+25
Elemental I (atoms)    0.0000E+00  4.4043E+21
Organic I (atoms)      0.0000E+00  1.3068E+21
Aerosols (kg)          0.0000E+00  4.8410E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.3000       Ci           kg         Atoms      Decay
Co-58                  1.2944E-01  4.0706E-09  4.2265E+16  1.6000E+13
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Co-60	1.5506E-01	1.3717E-07	1.3768E+18	1.9163E+13
Kr-85	2.1931E+03	5.5898E-03	3.9603E+22	1.9937E+17
Kr-85m	2.4656E+04	2.9960E-06	2.1226E+19	2.4214E+18
Kr-87	2.0319E+04	7.1732E-07	4.9653E+18	2.4667E+18
Kr-88	5.4985E+04	4.3851E-06	3.0008E+19	5.6560E+18
Rb-86	6.1146E+00	7.5148E-08	5.2622E+17	9.7859E+14
Sr-89	2.3254E+02	8.0043E-06	5.4161E+19	2.8749E+16
Sr-90	3.1629E+01	2.3187E-04	1.5515E+21	3.9090E+15
Sr-91	2.4399E+02	6.7307E-08	4.4542E+17	3.1445E+16
Sr-92	1.6603E+02	1.3209E-08	8.6466E+16	2.3860E+16
Y-90	6.8596E-01	1.2608E-09	8.4364E+15	6.8121E+13
Y-91	2.9845E+00	1.2170E-07	8.0536E+17	3.6641E+14
Y-92	3.8637E+01	4.0154E-09	2.6284E+16	3.4364E+15
Y-93	2.7949E+00	8.3771E-10	5.4245E+15	3.5930E+14
Zr-95	3.4752E+00	1.6177E-07	1.0255E+18	4.2960E+14
Zr-97	3.0417E+00	1.5911E-09	9.8782E+15	3.8484E+14
Nb-95	3.4700E+00	8.8739E-08	5.6252E+17	4.2884E+14
Mo-99	4.2721E+01	8.9073E-08	5.4183E+17	5.3114E+15
Tc-99m	3.8568E+01	7.3347E-09	4.4617E+16	4.7620E+15
Ru-103	3.8370E+01	1.1889E-06	6.9512E+18	4.7441E+15
Ru-105	1.9409E+01	2.8873E-09	1.6560E+16	2.6265E+15
Ru-106	1.7333E+01	5.1810E-06	2.9435E+19	2.1423E+15
Rh-105	2.5976E+01	3.0775E-08	1.7651E+17	3.2165E+15
Sb-127	4.3525E+01	1.6298E-07	7.7283E+17	5.4021E+15
Sb-129	9.4205E+01	1.6752E-08	7.8205E+16	1.2782E+16
Te-127	4.3683E+01	1.6552E-08	7.8488E+16	5.3935E+15
Te-127m	7.5026E+00	7.9539E-07	3.7716E+18	9.2721E+14
Te-129	1.0774E+02	5.1448E-09	2.4017E+16	1.3895E+16
Te-129m	2.4557E+01	8.1516E-07	3.8054E+18	3.0350E+15
Te-131m	8.7371E+01	1.0957E-07	5.0370E+17	1.0941E+16
Te-132	6.4261E+02	2.1167E-06	9.6567E+18	7.9820E+16
I-131	2.9603E+03	2.3879E-05	1.0977E+20	4.5475E+17
I-132	3.1486E+03	3.0504E-07	1.3916E+18	5.3360E+17
I-133	5.7510E+03	5.0768E-06	2.2987E+19	9.0288E+17
I-134	1.1549E+03	4.3292E-08	1.9456E+17	3.4204E+17
I-135	4.6039E+03	1.3110E-06	5.8480E+18	7.6204E+17
Xe-133	2.0586E+05	1.0998E-03	4.9799E+21	1.8750E+19
Xe-135	9.7952E+04	3.8357E-05	1.7110E+20	9.0911E+18
Cs-134	7.0336E+02	5.4362E-04	2.4431E+21	1.1244E+17
Cs-136	2.0469E+02	2.7928E-06	1.2367E+19	3.2775E+16
Cs-137	5.6657E+02	6.5136E-03	2.8632E+22	9.0570E+16
Ba-139	1.1141E+02	6.8110E-09	2.9508E+16	1.8717E+16
Ba-140	3.4203E+02	4.6720E-06	2.0097E+19	4.2325E+16
La-140	9.6454E+00	1.7353E-08	7.4645E+16	9.0717E+14
La-141	2.1566E+00	3.8133E-10	1.6287E+15	2.9539E+14
La-142	1.1292E+00	7.8879E-11	3.3452E+14	1.8326E+14
Ce-141	8.0874E+00	2.8383E-07	1.2123E+18	9.9977E+14
Ce-143	7.5506E+00	1.1370E-08	4.7882E+16	9.4440E+14
Ce-144	6.4976E+00	2.0372E-06	8.5196E+18	8.0306E+14
Pr-143	3.1333E+00	4.6530E-08	1.9595E+17	3.8675E+14
Nd-147	1.2566E+00	1.5533E-08	6.3634E+16	1.5553E+14
Np-239	9.1801E+01	3.9571E-07	9.9708E+17	1.1425E+16
Pu-238	2.8793E-02	1.6819E-06	4.2557E+18	3.5585E+12
Pu-239	2.5071E-03	4.0336E-05	1.0164E+20	3.0983E+11
Pu-240	4.6570E-03	2.0437E-05	5.1282E+19	5.7554E+11
Pu-241	9.9714E-01	9.6797E-06	2.4188E+19	1.2323E+14
Am-241	7.2086E-04	2.1003E-07	5.2483E+17	8.9079E+10
Cm-242	1.7611E-01	5.3136E-08	1.3223E+17	2.1767E+13
Cm-244	1.2317E-02	1.5224E-07	3.7575E+17	1.5222E+12

Reactor Building Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	4.4810E+22	0.0000E+00
Elemental I (atoms)	6.6918E+18	0.0000E+00
Organic I (atoms)	2.4247E+18	0.0000E+00
Aerosols (kg)	7.4198E-03	0.0000E+00

Dose Effective (Ci/cc) I-131 (Thyroid) 6.3893E-08

Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 7.8693E-08
Total I (Ci) 1.7619E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	3.3975E+22
Elemental I (atoms)	4.9837E+18
Organic I (atoms)	1.8546E+18
Aerosols (kg)	5.4136E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5016E+21
Elemental I (atoms)	8.0283E+17	1.1100E+17
Organic I (atoms)	1.9201E+17	2.2364E+16
Aerosols (kg)	9.8156E-04	4.6492E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	1.4374E+22
Elemental I (atoms)	2.7525E+18
Organic I (atoms)	8.1675E+17
Aerosols (kg)	3.0254E-03

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5724E-02	5.6985E-02	5.8867E-02
Accumulated dose (rem)	8.1648E-02	1.3475E+00	1.4301E-01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9515E-02	3.0183E-02	3.1180E-02
Accumulated dose (rem)	4.7994E-02	1.9839E-01	5.7514E-02

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3078E-04	1.1673E-01	6.0467E-03
Accumulated dose (rem)	1.8878E-03	4.3179E+00	1.9591E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8534E+00	1.2118E-07	1.2583E+18	1.1223E+16
Co-60	4.6192E+00	4.0864E-06	4.1015E+19	1.3440E+16
Kr-85	1.0314E+06	2.6288E+00	1.8625E+25	4.1265E+20
Kr-85m	8.9133E+06	1.0831E-03	7.6735E+21	4.5517E+21
Kr-87	3.7829E+06	1.3355E-04	9.2443E+20	3.9006E+21
Kr-88	1.7077E+07	1.3619E-03	9.3197E+21	1.0130E+22
Rb-86	1.4098E+02	1.7326E-06	1.2133E+19	5.2312E+17
Sr-89	6.9210E+03	2.3823E-04	1.6119E+21	2.0165E+19
Sr-90	9.4227E+02	6.9078E-03	4.6222E+22	2.7416E+18
Sr-91	6.4208E+03	1.7713E-06	1.1722E+19	2.2403E+19
Sr-92	3.2022E+03	2.5476E-07	1.6676E+18	1.7811E+19
Y-90	3.4084E+01	6.2647E-08	4.1919E+17	3.5534E+16
Y-91	9.0727E+01	3.6995E-06	2.4483E+19	2.5501E+17
Y-92	1.7220E+03	1.7895E-07	1.1714E+18	9.2233E+17
Y-93	7.4094E+01	2.2208E-08	1.4381E+17	2.5573E+17
Zr-95	1.0345E+02	4.8156E-06	3.0526E+19	3.0133E+17
Zr-97	8.4513E+01	4.4209E-08	2.7447E+17	2.7224E+17
Nb-95	1.0337E+02	2.6436E-06	1.6758E+19	3.0077E+17

Mo-99	1.2502E+03	2.6066E-06	1.5856E+19	3.7332E+18
Tc-99m	1.1431E+03	2.1740E-07	1.3224E+18	3.3438E+18
Ru-103	1.1417E+03	3.5374E-05	2.0683E+20	3.3278E+18
Ru-105	4.4343E+02	6.5966E-08	3.7834E+17	1.9091E+18
Ru-106	5.1632E+02	1.5433E-04	8.7678E+20	1.5025E+18
Rh-105	7.6514E+02	9.0650E-07	5.1991E+18	2.2568E+18
Sb-127	1.2802E+03	4.7939E-06	2.2732E+19	3.7946E+18
Sb-129	2.1365E+03	3.7993E-07	1.7736E+18	9.3004E+18
Te-127	1.2989E+03	4.9216E-07	2.3337E+18	3.7853E+18
Te-127m	2.2352E+02	2.3696E-05	1.1236E+20	6.5031E+17
Te-129	2.6896E+03	1.2843E-07	5.9955E+17	9.9539E+18
Te-129m	7.3130E+02	2.4275E-05	1.1333E+20	2.1286E+18
Te-131m	2.5026E+03	3.1385E-06	1.4428E+19	7.7104E+18
Te-132	1.8858E+04	6.2115E-05	2.8338E+20	5.6083E+19
I-131	1.0085E+05	8.1350E-04	3.7397E+21	2.6036E+20
I-132	8.2816E+04	8.0232E-06	3.6604E+19	3.5654E+20
I-133	1.8619E+05	1.6436E-04	7.4423E+20	5.2068E+20
I-134	1.0319E+04	3.8680E-07	1.7383E+18	2.6291E+20
I-135	1.3199E+05	3.7583E-05	1.6765E+20	4.4810E+20
Xe-133	9.5999E+07	5.1287E-01	2.3222E+24	3.8714E+22
Xe-135	4.1227E+07	1.6144E-02	7.2015E+22	1.8372E+22
Cs-134	1.6258E+04	1.2566E-02	5.6474E+22	6.0078E+19
Cs-136	4.7141E+03	6.4320E-05	2.8481E+20	1.7524E+19
Cs-137	1.3097E+04	1.5057E-01	6.6188E+23	4.8392E+19
Ba-139	1.4116E+03	8.6301E-08	3.7390E+17	1.5077E+19
Ba-140	1.0150E+04	1.3865E-04	5.9640E+20	2.9699E+19
La-140	5.1875E+02	9.3329E-07	4.0146E+18	4.2569E+17
La-141	4.7603E+01	8.4174E-09	3.5951E+16	2.1582E+17
La-142	1.5664E+01	1.0942E-09	4.6405E+15	1.4507E+17
Ce-141	2.4069E+02	8.4471E-06	3.6078E+19	7.0135E+17
Ce-143	2.1705E+02	3.2684E-07	1.3764E+18	6.6523E+17
Ce-144	1.9354E+02	6.0680E-05	2.5377E+20	5.6325E+17
Pr-143	9.3711E+01	1.3916E-06	5.8606E+18	2.7090E+17
Nd-147	3.7269E+01	4.6069E-07	1.8873E+18	1.0914E+17
Np-239	2.6784E+03	1.1545E-05	2.9091E+19	8.0331E+18
Pu-238	8.5779E-01	5.0106E-05	1.2678E+20	2.4958E+15
Pu-239	7.4706E-02	1.2019E-03	3.0285E+21	2.1730E+14
Pu-240	1.3874E-01	6.0885E-04	1.5277E+21	4.0366E+14
Pu-241	2.9706E+01	2.8837E-04	7.2058E+20	8.6431E+16
Am-241	2.1484E-02	6.2595E-06	1.5641E+19	6.2471E+13
Cm-242	5.2449E+00	1.5825E-06	3.9380E+18	1.5267E+16
Cm-244	3.6693E-01	4.5355E-06	1.1194E+19	1.0676E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump
Noble gases (atoms)	2.1037E+25	0.0000E+00
Elemental I (atoms)	5.8275E+20	5.6172E+22
Organic I (atoms)	1.0144E+21	0.0000E+00
Aerosols (kg)	1.7374E-01	6.1285E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		5.0619E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		6.1248E-05
Total I (Ci)		5.1217E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	7.9129E+22
Elemental I (atoms)	6.0689E+18
Organic I (atoms)	4.0567E+18
Aerosols (kg)	6.0086E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.3962E+25
Elemental I (atoms)	0.0000E+00	6.4535E+21

Organic I (atoms)	0.0000E+00	4.3049E+21
Aerosols (kg)	0.0000E+00	6.3925E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9934E+25
Elemental I (atoms)	0.0000E+00	6.0198E+21
Organic I (atoms)	0.0000E+00	3.6013E+21
Aerosols (kg)	0.0000E+00	6.2180E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	1.3469E-01	4.2357E-09	4.3980E+16	4.6631E+13
Co-60	1.6146E-01	1.4283E-07	1.4336E+18	5.5870E+13
Kr-85	5.1039E+03	1.3009E-02	9.2168E+22	1.0560E+18
Kr-85m	4.4109E+04	5.3599E-06	3.7974E+19	1.0748E+19
Kr-87	1.8720E+04	6.6090E-07	4.5747E+18	7.3398E+18
Kr-88	8.4508E+04	6.7395E-06	4.6120E+19	2.2772E+19
Rb-86	6.0468E+00	7.4315E-08	5.2039E+17	2.3795E+15
Sr-89	2.4191E+02	8.3267E-06	5.6342E+19	8.3771E+16
Sr-90	3.2935E+01	2.4145E-04	1.6156E+21	1.1397E+16
Sr-91	2.2443E+02	6.1911E-08	4.0971E+17	8.5750E+16
Sr-92	1.1193E+02	8.9047E-09	5.8288E+16	5.5701E+16
Y-90	1.2787E+00	2.3503E-09	1.5726E+16	2.9031E+14
Y-91	3.1854E+00	1.2989E-07	8.5959E+17	1.0813E+15
Y-92	6.6686E+01	6.9303E-09	4.5364E+16	1.5761E+16
Y-93	2.5898E+00	7.7625E-10	5.0265E+15	9.8362E+14
Zr-95	3.6160E+00	1.6832E-07	1.0670E+18	1.2520E+15
Zr-97	2.9540E+00	1.5452E-09	9.5934E+15	1.0802E+15
Nb-95	3.6132E+00	9.2402E-08	5.8575E+17	1.2502E+15
Mo-99	4.3697E+01	9.1110E-08	5.5422E+17	1.5334E+16
Tc-99m	3.9956E+01	7.5988E-09	4.6223E+16	1.3820E+16
Ru-103	3.9905E+01	1.2364E-06	7.2292E+18	1.3822E+16
Ru-105	1.5499E+01	2.3057E-09	1.3224E+16	6.6594E+15
Ru-106	1.8047E+01	5.3942E-06	3.0646E+19	6.2453E+15
Rh-105	2.6744E+01	3.1685E-08	1.8172E+17	9.3298E+15
Sb-127	4.4747E+01	1.6756E-07	7.9455E+17	1.5640E+16
Sb-129	7.4677E+01	1.3280E-08	6.1994E+16	3.2287E+16
Te-127	4.5399E+01	1.7202E-08	8.1571E+16	1.5688E+16
Te-127m	7.8125E+00	8.2825E-07	3.9274E+18	2.7033E+15
Te-129	9.4010E+01	4.4890E-09	2.0956E+16	3.6762E+16
Te-129m	2.5561E+01	8.4849E-07	3.9610E+18	8.8472E+15
Te-131m	8.7475E+01	1.0970E-07	5.0429E+17	3.1222E+16
Te-132	6.5913E+02	2.1711E-06	9.9051E+18	2.3080E+17
I-131	3.0167E+03	2.4333E-05	1.1186E+20	1.1439E+18
I-132	2.2590E+03	2.1885E-07	9.9844E+17	1.1492E+18
I-133	5.5706E+03	4.9175E-06	2.2266E+19	2.2082E+18
I-134	3.0871E+02	1.1572E-08	5.2008E+16	4.9001E+17
I-135	3.9488E+03	1.1244E-06	5.0159E+18	1.7463E+18
Xe-133	4.7496E+05	2.5374E-03	1.1489E+22	9.8776E+19
Xe-135	2.0306E+05	7.9517E-05	3.5471E+20	4.5036E+19
Cs-134	6.9735E+02	5.3898E-04	2.4222E+21	2.7379E+17
Cs-136	2.0219E+02	2.7588E-06	1.2216E+19	7.9645E+16
Cs-137	5.6176E+02	6.4584E-03	2.8389E+22	2.2055E+17
Ba-139	4.9340E+01	3.0165E-09	1.3069E+16	3.6406E+16
Ba-140	3.5478E+02	4.8462E-06	2.0846E+19	1.2314E+17
La-140	1.9611E+01	3.5283E-08	1.5177E+17	4.2060E+15
La-141	1.6639E+00	2.9421E-10	1.2566E+15	7.3617E+14
La-142	5.4749E-01	3.8246E-11	1.6220E+14	3.6977E+14
Ce-141	8.4118E+00	2.9522E-07	1.2609E+18	2.9132E+15
Ce-143	7.5866E+00	1.1424E-08	4.8110E+16	2.7002E+15
Ce-144	6.7647E+00	2.1209E-06	8.8698E+18	2.3411E+15
Pr-143	3.2781E+00	4.8680E-08	2.0501E+17	1.1301E+15
Nd-147	1.3027E+00	1.6102E-08	6.5966E+16	4.5234E+14

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Np-239                 9.3620E+01  4.0355E-07  1.0168E+18  3.2931E+16
Pu-238                 2.9982E-02  1.7513E-06  4.4314E+18  1.0375E+13
Pu-239                 2.6112E-03  4.2010E-05  1.0585E+20  9.0340E+11
Pu-240                 4.8493E-03  2.1281E-05  5.3399E+19  1.6780E+12
Pu-241                 1.0383E+00  1.0079E-05  2.5186E+19  3.5928E+14
Am-241                 7.5094E-04  2.1880E-07  5.4673E+17  2.5976E+11
Cm-242                 1.8332E-01  5.5313E-08  1.3765E+17  6.3450E+13
Cm-244                 1.2825E-02  1.5853E-07  3.9126E+17  4.4379E+12

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    1.0410E+23  0.0000E+00
Elemental I (atoms)    7.2207E+18  0.0000E+00
Organic I (atoms)      5.1910E+18  0.0000E+00
Aerosols (kg)          7.3727E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.3912E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.7236E-08
Total I (Ci)                                   1.5104E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      7.9129E+22
Elemental I (atoms)      6.0689E+18
Organic I (atoms)        4.0567E+18
Aerosols (kg)            6.0086E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8557E+22
Elemental I (atoms)    2.0548E+18  2.5010E+17
Organic I (atoms)      8.8666E+17  9.9547E+16
Aerosols (kg)          2.4534E-03  7.6530E-05

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   4.0000  Leakage Transport

Noble gases (atoms)      4.3709E+22
Elemental I (atoms)      3.7622E+18
Organic I (atoms)        2.2508E+18
Aerosols (kg)            3.8860E-03

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.5341E-01  1.3540E-01  1.6053E-01
Accumulated dose (rem)  2.3506E-01  1.4829E+00  3.0353E-01

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.1257E-02  7.1719E-02  8.5027E-02
Accumulated dose (rem)  1.2925E-01  2.7011E-01  1.4254E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.2546E-03  1.8128E-02  3.1620E-03
Accumulated dose (rem)  4.1425E-03  4.3360E+00  1.9907E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
Co-58                  4.7205E+00  1.4845E-07  1.5414E+18  1.3716E+16
Co-60                  5.6676E+00  5.0139E-06  5.0324E+19  1.6431E+16
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Kr-85	1.0261E+06	2.6153E+00	1.8529E+25	9.6067E+20
Kr-85m	4.7755E+06	5.8029E-04	4.1113E+21	8.0840E+21
Kr-87	4.2530E+05	1.5015E-05	1.0393E+20	4.7191E+21
Kr-88	6.3999E+06	5.1039E-04	3.4928E+21	1.5926E+22
Rb-86	1.7192E+02	2.1129E-06	1.4795E+19	6.1412E+17
Sr-89	8.4729E+03	2.9164E-04	1.9734E+21	2.4642E+19
Sr-90	1.1562E+03	8.4760E-03	5.6715E+22	3.3517E+18
Sr-91	5.8843E+03	1.6233E-06	1.0742E+19	2.6003E+19
Sr-92	1.4125E+03	1.1237E-07	7.3557E+17	1.9102E+19
Y-90	8.9094E+01	1.6376E-07	1.0957E+18	6.9954E+16
Y-91	1.1677E+02	4.7613E-06	3.1509E+19	3.1524E+17
Y-92	2.2280E+03	2.3155E-07	1.5157E+18	2.1438E+18
Y-93	6.9091E+01	2.0709E-08	1.3410E+17	2.9762E+17
Zr-95	1.2671E+02	5.8982E-06	3.7389E+19	3.6826E+17
Zr-97	8.8009E+01	4.6038E-08	2.8582E+17	3.2266E+17
Nb-95	1.2684E+02	3.2437E-06	2.0562E+19	3.6770E+17
Mo-99	1.4709E+03	3.0668E-06	1.8655E+19	4.5257E+18
Tc-99m	1.3749E+03	2.6148E-07	1.5906E+18	4.0732E+18
Ru-103	1.3968E+03	4.3278E-05	2.5304E+20	4.0659E+18
Ru-105	2.9139E+02	4.3349E-08	2.4862E+17	2.1219E+18
Ru-106	6.3334E+02	1.8931E-04	1.0755E+21	1.8368E+18
Rh-105	8.9847E+02	1.0645E-06	6.1051E+18	2.7420E+18
Sb-127	1.5244E+03	5.7084E-06	2.7068E+19	4.6111E+18
Sb-129	1.3798E+03	2.4537E-07	1.1455E+18	1.0318E+19
Te-127	1.5806E+03	5.9891E-07	2.8400E+18	4.6201E+18
Te-127m	2.7426E+02	2.9076E-05	1.3788E+20	7.9503E+17
Te-129	2.0835E+03	9.9487E-08	4.6444E+17	1.1313E+19
Te-129m	8.9571E+02	2.9733E-05	1.3880E+20	2.6017E+18
Te-131m	2.7997E+03	3.5110E-06	1.6140E+19	9.2575E+18
Te-132	2.2333E+04	7.3562E-05	3.3561E+20	6.8078E+19
I-131	1.1419E+05	9.2110E-04	4.2343E+21	3.2126E+20
I-132	4.4637E+04	4.3244E-06	1.9729E+19	3.9071E+20
I-133	1.8713E+05	1.6519E-04	7.4796E+20	6.2664E+20
I-134	5.0137E+02	1.8794E-08	8.4464E+16	2.6478E+20
I-135	9.9639E+04	2.8372E-05	1.2656E+20	5.1356E+20
Xe-133	9.3429E+07	4.9913E-01	2.2600E+24	8.9168E+22
Xe-135	3.0260E+07	1.1849E-02	5.2858E+22	3.7263E+22
Cs-134	1.9947E+04	1.5417E-02	6.9285E+22	7.0605E+19
Cs-136	5.7335E+03	7.8229E-05	3.4640E+20	2.0563E+19
Cs-137	1.6071E+04	1.8476E-01	8.1214E+23	5.6873E+19
Ba-139	2.3172E+02	1.4167E-08	6.1376E+16	1.5467E+19
Ba-140	1.2342E+04	1.6859E-04	7.2519E+20	3.6241E+19
La-140	1.4197E+03	2.5542E-06	1.0987E+19	9.6728E+17
La-141	2.8847E+01	5.1008E-09	2.1786E+16	2.3785E+17
La-142	3.1820E+00	2.2228E-10	9.4269E+14	1.4973E+17
Ce-141	2.9443E+02	1.0333E-05	4.4134E+19	8.5696E+17
Ce-143	2.4487E+02	3.6873E-07	1.5528E+18	7.9998E+17
Ce-144	2.3738E+02	7.4426E-05	3.1125E+20	6.8854E+17
Pr-143	1.1618E+02	1.7253E-06	7.2656E+18	3.3188E+17
Nd-147	4.5251E+01	5.5936E-07	2.2915E+18	1.3315E+17
Np-239	3.1292E+03	1.3488E-05	3.3987E+19	9.7251E+18
Pu-238	1.0526E+00	6.1482E-05	1.5557E+20	3.0512E+15
Pu-239	9.1708E-02	1.4754E-03	3.7177E+21	2.6568E+14
Pu-240	1.7023E-01	7.4708E-04	1.8746E+21	4.9349E+14
Pu-241	3.6449E+01	3.5383E-04	8.8415E+20	1.0567E+17
Am-241	2.6388E-02	7.6883E-06	1.9212E+19	7.6388E+13
Cm-242	6.4310E+00	1.9404E-06	4.8286E+18	1.8662E+16
Cm-244	4.5023E-01	5.5650E-06	1.3735E+19	1.3052E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	2.0850E+25	0.0000E+00
Elemental I (atoms)	5.5370E+20	5.6172E+22
Organic I (atoms)	9.6109E+20	0.0000E+00
Aerosols (kg)	2.1314E-01	6.1285E+01

Dose Effective (Ci/cc) I-131 (Thyroid) 5.5199E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 6.4726E-05

Total I (Ci) 4.4610E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	1.8384E+23
Elemental I (atoms)	8.9117E+18
Organic I (atoms)	8.9923E+18
Aerosols (kg)	7.0619E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9506E+26
Elemental I (atoms)	0.0000E+00	9.4699E+21
Organic I (atoms)	0.0000E+00	9.5418E+21
Aerosols (kg)	0.0000E+00	7.5101E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8103E+26
Elemental I (atoms)	0.0000E+00	9.0378E+21
Organic I (atoms)	0.0000E+00	8.8381E+21
Aerosols (kg)	0.0000E+00	7.3761E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	1.1550E-01	3.6324E-09	3.7715E+16	1.1277E+14
Co-60	1.3867E-01	1.2268E-07	1.2313E+18	1.3521E+14
Kr-85	1.0018E+04	2.5534E-02	1.8090E+23	5.2210E+18
Kr-85m	4.6625E+04	5.6656E-06	4.0140E+19	3.6727E+19
Kr-87	4.1523E+03	1.4659E-07	1.0147E+18	1.2891E+19
Kr-88	6.2485E+04	4.9831E-06	3.4101E+19	6.4589E+19
Rb-86	4.9021E+00	6.0247E-08	4.2188E+17	5.2656E+15
Sr-89	2.0731E+02	7.1359E-06	4.8285E+19	2.0252E+17
Sr-90	2.8289E+01	2.0739E-04	1.3877E+21	2.7582E+16
Sr-91	1.4398E+02	3.9718E-08	2.6284E+17	1.8175E+17
Sr-92	3.4560E+01	2.7495E-09	1.7998E+16	9.0576E+16
Y-90	2.2323E+00	4.1030E-09	2.7454E+16	1.2281E+15
Y-91	2.8659E+00	1.1686E-07	7.7336E+17	2.6838E+15
Y-92	5.6372E+01	5.8584E-09	3.8348E+16	5.0084E+16
Y-93	1.6905E+00	5.0670E-10	3.2811E+15	2.1004E+15
Zr-95	3.1003E+00	1.4432E-07	9.1483E+17	3.0274E+15
Zr-97	2.1534E+00	1.1264E-09	6.9934E+15	2.4218E+15
Nb-95	3.1035E+00	7.9366E-08	5.0311E+17	3.0258E+15
Mo-99	3.5990E+01	7.5039E-08	4.5646E+17	3.6375E+16
Tc-99m	3.3641E+01	6.3978E-09	3.8917E+16	3.3174E+16
Ru-103	3.4176E+01	1.0589E-06	6.1912E+18	3.3404E+16
Ru-105	7.1298E+00	1.0607E-09	6.0833E+15	1.2369E+16
Ru-106	1.5496E+01	4.6319E-06	2.6315E+19	1.5113E+16
Rh-105	2.1984E+01	2.6045E-08	1.4938E+17	2.2210E+16
Sb-127	3.7300E+01	1.3967E-07	6.6230E+17	3.7311E+16
Sb-129	3.3761E+01	6.0037E-09	2.8027E+16	5.9589E+16
Te-127	3.8674E+01	1.4654E-08	6.9488E+16	3.7837E+16
Te-127m	6.7107E+00	7.1143E-07	3.3735E+18	6.5425E+15
Te-129	5.0979E+01	2.4342E-09	1.1364E+16	7.3111E+16
Te-129m	2.1916E+01	7.2750E-07	3.3962E+18	2.1398E+16
Te-131m	6.8503E+01	8.5908E-08	3.9492E+17	7.2330E+16
Te-132	5.4644E+02	1.7999E-06	8.2116E+18	5.4918E+17
I-131	2.6200E+03	2.1134E-05	9.7152E+19	2.6355E+18
I-132	1.0071E+03	9.7571E-08	4.4514E+17	1.9472E+18
I-133	4.2940E+03	3.7906E-06	1.7163E+19	4.8082E+18
I-134	1.1505E+01	4.3127E-10	1.9382E+15	5.3792E+17

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I-135                  2.2864E+03  6.5105E-07  2.9042E+18  3.3591E+18
Xe-133                 9.1216E+05  4.8731E-03  2.2065E+22  4.8175E+20
Xe-135                 2.9536E+05  1.1566E-04  5.1593E+20  1.8610E+20
Cs-134                 5.6876E+02  4.3959E-04  1.9756E+21  6.0760E+17
Cs-136                 1.6349E+02  2.2306E-06  9.8774E+18  1.7603E+17
Cs-137                 4.5824E+02  5.2682E-03  2.3158E+22  4.8947E+17
Ba-139                 5.6697E+00  3.4662E-10  1.5017E+15  4.7100E+16
Ba-140                 3.0199E+02  4.1250E-06  1.7744E+19  2.9672E+17
La-140                 3.5601E+01  6.4050E-08  2.7551E+17  1.8988E+16
La-141                 7.0582E-01  1.2481E-10  5.3305E+14  1.3280E+15
La-142                 7.7857E-02  5.4388E-12  2.3066E+13  4.9733E+14
Ce-141                 7.2035E+00  2.5281E-07  1.0798E+18  7.0410E+15
Ce-143                 5.9913E+00  9.0220E-09  3.7994E+16  6.2799E+15
Ce-144                 5.8082E+00  1.8210E-06  7.6156E+18  5.6648E+15
Pr-143                 2.8442E+00  4.2238E-08  1.7787E+17  2.7488E+15
Nd-147                 1.1072E+00  1.3686E-08  5.6069E+16  1.0892E+15
Np-239                 7.6565E+01  3.3003E-07  8.3159E+17  7.7855E+16
Pu-238                 2.5754E-02  1.5043E-06  3.8064E+18  2.5109E+13
Pu-239                 2.2439E-03  3.6101E-05  9.0964E+19  2.1869E+12
Pu-240                 4.1653E-03  1.8279E-05  4.5867E+19  4.0610E+12
Pu-241                 8.9183E-01  8.6574E-06  2.1633E+19  8.6952E+14
Am-241                 6.4567E-04  1.8812E-07  4.7008E+17  6.2897E+11
Cm-242                 1.5735E-01  4.7477E-08  1.1815E+17  1.5351E+14
Cm-244                 1.1016E-02  1.3616E-07  3.3607E+17  1.0741E+13

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    2.0356E+23  0.0000E+00
Elemental I (atoms)    7.9870E+18  0.0000E+00
Organic I (atoms)      9.4881E+18  0.0000E+00
Aerosols (kg)          6.0278E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.3474E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.2695E-08
Total I (Ci)                                   1.0219E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      1.8384E+23
Elemental I (atoms)      8.9117E+18
Organic I (atoms)        8.9923E+18
Aerosols (kg)            7.0619E-03

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.2647E+22
Elemental I (atoms)    5.2885E+18  6.0940E+17
Organic I (atoms)      4.0794E+18  4.5429E+17
Aerosols (kg)          5.5114E-03  1.3894E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =   8.0000  Leakage Transport

Noble gases (atoms)      1.1314E+23
Elemental I (atoms)      5.6484E+18
Organic I (atoms)        5.5238E+18
Aerosols (kg)            4.6098E-03

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.1038E-01  2.6052E-01  2.2320E-01
Accumulated dose (rem)  4.4544E-01  1.7434E+00  5.2673E-01

Low Population Zone Doses:
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Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3040E-02	4.6516E-02	7.5329E-02
Accumulated dose (rem)	2.0229E-01	3.1662E-01	2.1787E-01

Control Room Doses:

Time (h) = 16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3453E-03	1.4485E-02	3.0644E-03
Accumulated dose (rem)	6.4878E-03	4.3505E+00	2.0213E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	4.6583E+00	1.4650E-07	1.5211E+18	1.8712E+16
Co-60	5.6105E+00	4.9634E-06	4.9817E+19	2.2439E+16
Kr-85	1.0158E+06	2.5892E+00	1.8344E+25	2.0483E+21
Kr-85m	1.3713E+06	1.6663E-04	1.1805E+21	1.0991E+22
Kr-87	5.3776E+03	1.8985E-07	1.3141E+18	4.8214E+21
Kr-88	8.9921E+05	7.1712E-05	4.9075E+20	1.8912E+22
Rb-86	1.6811E+02	2.0661E-06	1.4468E+19	7.9523E+17
Sr-89	8.3503E+03	2.8742E-04	1.9448E+21	3.3602E+19
Sr-90	1.1447E+03	8.3915E-03	5.6149E+22	4.5772E+18
Sr-91	3.2498E+03	8.9649E-07	5.9328E+18	3.0731E+19
Sr-92	1.8071E+02	1.4377E-08	9.4110E+16	1.9740E+19
Y-90	1.7613E+02	3.2373E-07	2.1661E+18	2.0899E+17
Y-91	1.2245E+02	4.9932E-06	3.3044E+19	4.4285E+17
Y-92	8.3908E+02	8.7201E-08	5.7080E+17	3.7165E+18
Y-93	3.9504E+01	1.1840E-08	7.6672E+16	3.5401E+17
Zr-95	1.2500E+02	5.8184E-06	3.6884E+19	5.0233E+17
Zr-97	6.2760E+01	3.2830E-08	2.0382E+17	4.0222E+17
Nb-95	1.2557E+02	3.2111E-06	2.0356E+19	5.0212E+17
Mo-99	1.3389E+03	2.7916E-06	1.6981E+19	6.0213E+18
Tc-99m	1.3005E+03	2.4732E-07	1.5044E+18	5.4599E+18
Ru-103	1.3747E+03	4.2596E-05	2.4905E+20	5.5421E+18
Ru-105	8.2745E+01	1.2309E-08	7.0599E+16	2.2985E+18
Ru-106	6.2664E+02	1.8730E-04	1.0641E+21	2.5079E+18
Rh-105	7.8403E+02	9.2889E-07	5.3275E+18	3.6387E+18
Sb-127	1.4214E+03	5.3224E-06	2.5238E+19	6.1795E+18
Sb-129	3.7846E+02	6.7301E-08	3.1418E+17	1.1143E+19
Te-127	1.5322E+03	5.8057E-07	2.7530E+18	6.2501E+18
Te-127m	2.7152E+02	2.8785E-05	1.3649E+20	1.0857E+18
Te-129	1.2376E+03	5.9094E-08	2.7587E+17	1.2749E+19
Te-129m	8.8188E+02	2.9274E-05	1.3666E+20	3.5487E+18
Te-131m	2.3041E+03	2.8895E-06	1.3283E+19	1.1967E+19
Te-132	2.0597E+04	6.7845E-05	3.0952E+20	9.0932E+19
I-131	1.0991E+05	8.8655E-04	4.0755E+21	4.4061E+20
I-132	2.5255E+04	2.4467E-06	1.1163E+19	4.2199E+20
I-133	1.4191E+05	1.2527E-04	5.6723E+20	8.0080E+20
I-134	8.8874E-01	3.3315E-11	1.4972E+14	2.6486E+20
I-135	4.2634E+04	1.2140E-05	5.4154E+19	5.8510E+20
Xe-133	8.8520E+07	4.7291E-01	2.1413E+24	1.8606E+23
Xe-135	1.6303E+07	6.3840E-03	2.8478E+22	6.1304E+22
Cs-134	1.9742E+04	1.5259E-02	6.8574E+22	9.1745E+19
Cs-136	5.5772E+03	7.6097E-05	3.3696E+20	2.6587E+19
Cs-137	1.5910E+04	1.8292E-01	8.0405E+23	7.3907E+19
Ba-139	4.1059E+00	2.5102E-10	1.0875E+15	1.5527E+19
Ba-140	1.2000E+04	1.6391E-04	7.0507E+20	4.9206E+19
La-140	2.7884E+03	5.0166E-06	2.1579E+19	3.1788E+18
La-141	6.9658E+00	1.2317E-09	5.2607E+15	2.5426E+17
La-142	8.6348E-02	6.0320E-12	2.5581E+13	1.5064E+17
Ce-141	2.8954E+02	1.0162E-05	4.3401E+19	1.1680E+18
Ce-143	2.0493E+02	3.0859E-07	1.2996E+18	1.0389E+18
Ce-144	2.3483E+02	7.3625E-05	3.0790E+20	9.4005E+17
Pr-143	1.1685E+02	1.7352E-06	7.3076E+18	4.5596E+17
Nd-147	4.3868E+01	5.4226E-07	2.2215E+18	1.8061E+17
Np-239	2.8085E+03	1.2106E-05	3.0504E+19	1.2885E+19

Pu-238	1.0421E+00	6.0873E-05	1.5403E+20	4.1669E+15
Pu-239	9.0873E-02	1.4620E-03	3.6839E+21	3.6293E+14
Pu-240	1.6854E-01	7.3965E-04	1.8559E+21	6.7394E+14
Pu-241	3.6085E+01	3.5029E-04	8.7532E+20	1.4430E+17
Am-241	2.6178E-02	7.6272E-06	1.9059E+19	1.0439E+14
Cm-242	6.3580E+00	1.9184E-06	4.7738E+18	2.5474E+16
Cm-244	4.4573E-01	5.5095E-06	1.3598E+19	1.7824E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump
Noble gases (atoms)	2.0516E+25	0.0000E+00
Elemental I (atoms)	5.0829E+20	5.6172E+22
Organic I (atoms)	8.8227E+20	0.0000E+00
Aerosols (kg)	2.1094E-01	6.1285E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		5.0152E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		5.6615E-05
Total I (Ci)		3.1971E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.9067E+23
Elemental I (atoms)	1.4220E+19
Organic I (atoms)	1.8206E+19
Aerosols (kg)	9.1823E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1452E+26
Elemental I (atoms)	0.0000E+00	1.5102E+22
Organic I (atoms)	0.0000E+00	1.9318E+22
Aerosols (kg)	0.0000E+00	9.7599E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0049E+26
Elemental I (atoms)	0.0000E+00	1.4670E+22
Organic I (atoms)	0.0000E+00	1.8614E+22
Aerosols (kg)	0.0000E+00	9.6259E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	9.5497E-02	3.0033E-09	3.1183E+16	2.2316E+14
Co-60	1.1502E-01	1.0175E-07	1.0213E+18	2.6796E+14
Kr-85	1.4923E+04	3.8038E-02	2.6949E+23	1.9041E+19
Kr-85m	2.0145E+04	2.4479E-06	1.7343E+19	7.2151E+19
Kr-87	7.9001E+01	2.7890E-09	1.9306E+16	1.4037E+19
Kr-88	1.3210E+04	1.0535E-06	7.2095E+18	1.0015E+20
Rb-86	3.7151E+00	4.5659E-08	3.1972E+17	9.7369E+15
Sr-89	1.7118E+02	5.8923E-06	3.9870E+19	4.0054E+17
Sr-90	2.3466E+01	1.7203E-04	1.1511E+21	5.4663E+16
Sr-91	6.6622E+01	1.8378E-08	1.2162E+17	2.8716E+17
Sr-92	3.7047E+00	2.9474E-10	1.9293E+15	1.0511E+17
Y-90	3.6294E+00	6.6710E-09	4.4637E+16	4.3054E+15
Y-91	2.5138E+00	1.0250E-07	6.7834E+17	5.5075E+15
Y-92	1.7353E+01	1.8034E-09	1.1805E+16	8.6080E+16
Y-93	8.0984E-01	2.4273E-10	1.5718E+15	3.3570E+15
Zr-95	2.5625E+00	1.1928E-07	7.5612E+17	5.9901E+15
Zr-97	1.2866E+00	6.7303E-10	4.1784E+15	4.1887E+15
Nb-95	2.5741E+00	6.5829E-08	4.1730E+17	5.9961E+15
Mo-99	2.7448E+01	5.7229E-08	3.4812E+17	6.9466E+16
Tc-99m	2.6660E+01	5.0701E-09	3.0841E+16	6.3874E+16

Ru-103	2.8183E+01	8.7323E-07	5.1056E+18	6.6027E+16
Ru-105	1.6963E+00	2.5235E-10	1.4473E+15	1.6345E+16
Ru-106	1.2846E+01	3.8398E-06	2.1815E+19	2.9943E+16
Rh-105	1.6073E+01	1.9042E-08	1.0922E+17	4.2065E+16
Sb-127	2.9138E+01	1.0911E-07	5.1738E+17	7.2002E+16
Sb-129	7.7585E+00	1.3797E-09	6.4408E+15	7.8171E+16
Te-127	3.1410E+01	1.1902E-08	5.6437E+16	7.3894E+16
Te-127m	5.5662E+00	5.9011E-07	2.7982E+18	1.2966E+16
Te-129	2.5370E+01	1.2114E-09	5.6554E+15	1.0527E+17
Te-129m	1.8079E+01	6.0012E-07	2.8016E+18	4.2325E+16
Te-131m	4.7234E+01	5.9235E-08	2.7231E+17	1.3239E+17
Te-132	4.2225E+02	1.3908E-06	6.3453E+18	1.0548E+18
I-131	2.1870E+03	1.7641E-05	8.1097E+19	5.1576E+18
I-132	5.1476E+02	4.9870E-08	2.2752E+17	2.6208E+18
I-133	2.8239E+03	2.4929E-06	1.1287E+19	8.4996E+18
I-134	1.7685E-02	6.6295E-13	2.9794E+12	5.3980E+17
I-135	8.4838E+02	2.4158E-07	1.0776E+18	4.8862E+18
Xe-133	1.3005E+06	6.9476E-03	3.1458E+22	1.7112E+21
Xe-135	2.3962E+05	9.3832E-05	4.1857E+20	4.8546E+20
Cs-134	4.3628E+02	3.3720E-04	1.5154E+21	1.1294E+18
Cs-136	1.2325E+02	1.6817E-06	7.4465E+18	3.2477E+17
Cs-137	3.5160E+02	4.0422E-03	1.7769E+22	9.0991E+17
Ba-139	8.4173E-02	5.1460E-12	2.2295E+13	4.8499E+16
Ba-140	2.4600E+02	3.3603E-06	1.4454E+19	5.8329E+17
La-140	5.7457E+01	1.0337E-07	4.4466E+17	6.7953E+16
La-141	1.4280E-01	2.5251E-11	1.0785E+14	1.6983E+15
La-142	1.7702E-03	1.2366E-13	5.2443E+11	5.1851E+14
Ce-141	5.9355E+00	2.0831E-07	8.8971E+17	1.3915E+16
Ce-143	4.2012E+00	6.3263E-09	2.6642E+16	1.1574E+16
Ce-144	4.8140E+00	1.5093E-06	6.3121E+18	1.1223E+16
Pr-143	2.3961E+00	3.5582E-08	1.4985E+17	5.4910E+15
Nd-147	8.9931E-01	1.1117E-08	4.5541E+16	2.1384E+15
Np-239	5.7576E+01	2.4818E-07	6.2535E+17	1.4778E+17
Pu-238	2.1364E-02	1.2479E-06	3.1576E+18	4.9764E+13
Pu-239	1.8629E-03	2.9972E-05	7.5520E+19	4.3358E+12
Pu-240	3.4551E-03	1.5163E-05	3.8047E+19	8.0485E+12
Pu-241	7.3975E-01	7.1811E-06	1.7944E+19	1.7233E+15
Am-241	5.3666E-04	1.5636E-07	3.9072E+17	1.2476E+12
Cm-242	1.3034E-01	3.9327E-08	9.7865E+16	3.0404E+14
Cm-244	9.1376E-03	1.1295E-07	2.7876E+17	2.1286E+13

Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump
Noble gases (atoms)	3.0139E+23	0.0000E+00
Elemental I (atoms)	8.4040E+18	0.0000E+00
Organic I (atoms)	1.3000E+19	0.0000E+00
Aerosols (kg)	4.6422E-03	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.2138E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.7573E-08
Total I (Ci)		6.3741E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.9067E+23
Elemental I (atoms)	1.4220E+19
Organic I (atoms)	1.8206E+19
Aerosols (kg)	9.1823E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3721E+23
Elemental I (atoms)	1.2296E+19	1.3880E+18
Organic I (atoms)	1.3920E+19	1.5477E+18
Aerosols (kg)	1.0323E-02	2.3714E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	2.5031E+23
Elemental I (atoms)	9.1684E+18
Organic I (atoms)	1.1634E+19
Aerosols (kg)	6.0160E-03

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2421E-01	2.4451E-01	1.3582E-01
Accumulated dose (rem)	5.6965E-01	1.9879E+00	6.6255E-01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3124E-02	4.3657E-02	4.5196E-02
Accumulated dose (rem)	2.4541E-01	3.6028E-01	2.6307E-01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3597E-03	1.3100E-02	1.9836E-03
Accumulated dose (rem)	7.8475E-03	4.3636E+00	2.0412E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.5970E+00	1.4457E-07	1.5010E+18	2.3640E+16
Co-60	5.5541E+00	4.9134E-06	4.9315E+19	2.8383E+16
Kr-85	1.0057E+06	2.5633E+00	1.8161E+25	3.1247E+21
Kr-85m	3.9376E+05	4.7847E-05	3.3899E+20	1.1825E+22
Kr-87	6.7995E+01	2.4005E-09	1.6616E+16	4.8227E+21
Kr-88	1.2634E+05	1.0076E-05	6.8952E+19	1.9331E+22
Rb-86	1.6439E+02	2.0204E-06	1.4148E+19	9.7227E+17
Sr-89	8.2295E+03	2.8326E-04	1.9167E+21	4.2430E+19
Sr-90	1.1332E+03	8.3078E-03	5.5590E+22	5.7901E+18
Sr-91	1.7948E+03	4.9511E-07	3.2765E+18	3.3340E+19
Sr-92	2.3120E+01	1.8394E-09	1.2040E+16	1.9822E+19
Y-90	2.5447E+02	4.6772E-07	3.1296E+18	4.3245E+17
Y-91	1.2479E+02	5.0886E-06	3.3675E+19	5.7445E+17
Y-92	2.2484E+02	2.3366E-08	1.5295E+17	4.2125E+18
Y-93	2.2587E+01	6.7700E-09	4.3838E+16	3.8623E+17
Zr-95	1.2331E+02	5.7398E-06	3.6385E+19	6.3454E+17
Zr-97	4.4755E+01	2.3411E-08	1.4535E+17	4.5892E+17
Nb-95	1.2430E+02	3.1789E-06	2.0151E+19	6.3511E+17
Mo-99	1.2188E+03	2.5411E-06	1.5458E+19	7.3822E+18
Tc-99m	1.2211E+03	2.3222E-07	1.4126E+18	6.7347E+18
Ru-103	1.3531E+03	4.1925E-05	2.4512E+20	6.9946E+18
Ru-105	2.3496E+01	3.4954E-09	2.0048E+16	2.3486E+18
Ru-106	6.2002E+02	1.8532E-04	1.0529E+21	3.1717E+18
Rh-105	6.7031E+02	7.9416E-07	4.5548E+18	4.4117E+18
Sb-127	1.3252E+03	4.9625E-06	2.3531E+19	7.6414E+18
Sb-129	1.0380E+02	1.8459E-08	8.6174E+16	1.1369E+19
Te-127	1.4789E+03	5.6038E-07	2.6572E+18	7.7994E+18
Te-127m	2.6877E+02	2.8494E-05	1.3511E+20	1.3734E+18
Te-129	8.9585E+02	4.2777E-08	1.9970E+17	1.3602E+19
Te-129m	8.6744E+02	2.8794E-05	1.3442E+20	4.4801E+18
Te-131m	1.8962E+03	2.3779E-06	1.0932E+19	1.4197E+19
Te-132	1.8996E+04	6.2572E-05	2.8547E+20	1.1200E+20
I-131	1.0578E+05	8.5324E-04	3.9224E+21	5.5544E+20
I-132	2.2734E+04	2.2024E-06	1.0048E+19	4.4407E+20
I-133	1.0762E+05	9.5002E-05	4.3016E+20	9.3282E+20
I-134	1.5754E-03	5.9055E-14	2.6540E+11	2.6487E+20
I-135	1.8242E+04	5.1945E-06	2.3172E+19	6.1570E+20

Xe-133	8.3867E+07	4.4805E-01	2.0287E+24	2.7783E+23
Xe-135	8.7809E+06	3.4385E-03	1.5338E+22	7.4249E+22
Cs-134	1.9540E+04	1.5102E-02	6.7871E+22	1.1266E+20
Cs-136	5.4252E+03	7.4023E-05	3.2778E+20	3.2445E+19
Cs-137	1.5752E+04	1.8109E-01	7.9603E+23	9.0766E+19
Ba-139	7.2754E-02	4.4479E-12	1.9270E+13	1.5528E+19
Ba-140	1.1667E+04	1.5936E-04	6.8551E+20	6.1807E+19
La-140	3.9327E+03	7.0754E-06	3.0435E+19	6.6679E+18
La-141	1.6821E+00	2.9743E-10	1.2703E+15	2.5822E+17
La-142	2.3432E-03	1.6369E-13	6.9419E+11	1.5066E+17
Ce-141	2.8466E+02	9.9903E-06	4.2669E+19	1.4738E+18
Ce-143	1.7151E+02	2.5827E-07	1.0876E+18	1.2388E+18
Ce-144	2.3230E+02	7.2833E-05	3.0459E+20	1.1888E+18
Pr-143	1.1689E+02	1.7359E-06	7.3102E+18	5.8025E+17
Nd-147	4.2527E+01	5.2569E-07	2.1536E+18	2.2661E+17
Np-239	2.5208E+03	1.0866E-05	2.7379E+19	1.5720E+19
Pu-238	1.0318E+00	6.0269E-05	1.5250E+20	5.2712E+15
Pu-239	9.0039E-02	1.4486E-03	3.6500E+21	4.5925E+14
Pu-240	1.6686E-01	7.3229E-04	1.8375E+21	8.5253E+14
Pu-241	3.5724E+01	3.4679E-04	8.6657E+20	1.8254E+17
Am-241	2.5970E-02	7.5665E-06	1.8907E+19	1.3215E+14
Cm-242	6.2858E+00	1.8966E-06	4.7196E+18	3.2206E+16
Cm-244	4.4128E-01	5.4545E-06	1.3462E+19	2.2547E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	2.0205E+25	0.0000E+00
Elemental I (atoms)	4.7349E+20	5.6172E+22
Organic I (atoms)	8.2187E+20	0.0000E+00
Aerosols (kg)	2.0878E-01	6.1285E+01

Dose Effective (Ci/cc)	I-131 (Thyroid)	4.6227E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	5.0885E-05
Total I (Ci)		2.5438E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Leakage Transport
Noble gases (atoms)	5.9432E+23
Elemental I (atoms)	1.9141E+19
Organic I (atoms)	2.6748E+19
Aerosols (kg)	1.1281E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3061E+26
Elemental I (atoms)	0.0000E+00	2.0324E+22
Organic I (atoms)	0.0000E+00	2.8381E+22
Aerosols (kg)	0.0000E+00	1.1987E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.1658E+26
Elemental I (atoms)	0.0000E+00	1.9892E+22
Organic I (atoms)	0.0000E+00	2.7678E+22
Aerosols (kg)	0.0000E+00	1.1853E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	8.7034E-02	2.7371E-09	2.8419E+16	3.1927E+14
Co-60	1.0515E-01	9.3025E-08	9.3368E+17	3.8389E+14
Kr-85	1.6732E+04	4.2647E-02	3.0215E+23	3.6189E+19
Kr-85m	6.5512E+03	7.9606E-07	5.6400E+18	8.5289E+19

Kr-87	1.1313E+00	3.9938E-11	2.7645E+14	1.4057E+19
Kr-88	2.1020E+03	1.6764E-07	1.1472E+18	1.0671E+20
Rb-86	3.2162E+00	3.9527E-08	2.7679E+17	1.3364E+16
Sr-89	1.5581E+02	5.3630E-06	3.6288E+19	5.7271E+17
Sr-90	2.1455E+01	1.5729E-04	1.0525E+21	7.8317E+16
Sr-91	3.3980E+01	9.3739E-09	6.2034E+16	3.3824E+17
Sr-92	4.3773E-01	3.4825E-11	2.2796E+14	1.0672E+17
Y-90	4.8245E+00	8.8676E-09	5.9335E+16	8.6649E+15
Y-91	2.3640E+00	9.6396E-08	6.3792E+17	8.0756E+15
Y-92	4.2692E+00	4.4367E-10	2.9042E+15	9.5884E+16
Y-93	4.2763E-01	1.2817E-10	8.2998E+14	3.9876E+15
Zr-95	2.3345E+00	1.0867E-07	6.8887E+17	8.5686E+15
Zr-97	8.4734E-01	4.4325E-10	2.7518E+15	5.2969E+15
Nb-95	2.3534E+00	6.0185E-08	3.8152E+17	8.5897E+15
Mo-99	2.3075E+01	4.8111E-08	2.9266E+17	9.6019E+16
Tc-99m	2.3118E+01	4.3965E-09	2.6744E+16	8.8742E+16
Ru-103	2.5618E+01	7.9376E-07	4.6409E+18	9.4354E+16
Ru-105	4.4485E-01	6.6178E-11	3.7956E+14	1.7330E+16
Ru-106	1.1739E+01	3.5087E-06	1.9934E+19	4.2888E+16
Rh-105	1.2691E+01	1.5036E-08	8.6235E+16	5.7154E+16
Sb-127	2.5091E+01	9.3954E-08	4.4551E+17	1.0052E+17
Sb-129	1.9653E+00	3.4949E-10	1.6315E+15	8.2614E+16
Te-127	2.8000E+01	1.0610E-08	5.0309E+16	1.0411E+17
Te-127m	5.0886E+00	5.3947E-07	2.5581E+18	1.8576E+16
Te-129	1.6961E+01	8.0989E-10	3.7808E+15	1.2195E+17
Te-129m	1.6423E+01	5.4516E-07	2.5450E+18	6.0491E+16
Te-131m	3.5900E+01	4.5021E-08	2.0696E+17	1.7591E+17
Te-132	3.5965E+02	1.1847E-06	5.4047E+18	1.4659E+18
I-131	1.9776E+03	1.5951E-05	7.3330E+19	7.3549E+18
I-132	4.3031E+02	4.1688E-08	1.9019E+17	3.0508E+18
I-133	2.0120E+03	1.7761E-06	8.0421E+18	1.1029E+19
I-134	2.9453E-05	1.1041E-15	4.9618E+09	5.3980E+17
I-135	3.4105E+02	9.7113E-08	4.3320E+17	5.4739E+18
Xe-133	1.3954E+06	7.4546E-03	3.3754E+22	3.1725E+21
Xe-135	1.4614E+05	5.7226E-05	2.5528E+20	6.9058E+20
Cs-134	3.8228E+02	2.9546E-04	1.3279E+21	1.5578E+18
Cs-136	1.0614E+02	1.4482E-06	6.4127E+18	4.4479E+17
Cs-137	3.0817E+02	3.5429E-03	1.5574E+22	1.2553E+18
Ba-139	1.3774E-03	8.4211E-14	3.6484E+11	4.8520E+16
Ba-140	2.2089E+02	3.0172E-06	1.2979E+19	8.2906E+17
La-140	7.4558E+01	1.3414E-07	5.7700E+17	1.3603E+17
La-141	3.1846E-02	5.6312E-12	2.4051E+13	1.7762E+15
La-142	4.4363E-05	3.0991E-15	1.3143E+10	5.1901E+14
Ce-141	5.3893E+00	1.8914E-07	8.0783E+17	1.9878E+16
Ce-143	3.2472E+00	4.8897E-09	2.0592E+16	1.5477E+16
Ce-144	4.3981E+00	1.3789E-06	5.7668E+18	1.6074E+16
Pr-143	2.2133E+00	3.2868E-08	1.3842E+17	7.9153E+15
Nd-147	8.0516E-01	9.9527E-09	4.0773E+16	3.0356E+15
Np-239	4.7725E+01	2.0572E-07	5.1835E+17	2.0310E+17
Pu-238	1.9535E-02	1.1411E-06	2.8873E+18	7.1299E+13
Pu-239	1.7047E-03	2.7426E-05	6.9105E+19	6.2144E+12
Pu-240	3.1592E-03	1.3864E-05	3.4789E+19	1.1531E+13
Pu-241	6.7636E-01	6.5658E-06	1.6407E+19	2.4689E+15
Am-241	4.9168E-04	1.4326E-07	3.5797E+17	1.7891E+12
Cm-242	1.1901E-01	3.5908E-08	8.9356E+16	4.3534E+14
Cm-244	8.3547E-03	1.0327E-07	2.5488E+17	3.0497E+13

Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	3.3617E+23	0.0000E+00	
Elemental I (atoms)	8.2226E+18	0.0000E+00	
Organic I (atoms)	1.3688E+19	0.0000E+00	
Aerosols (kg)	4.0771E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.6490E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.0169E-08
Total I (Ci)			4.7609E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	5.9432E+23
Elemental I (atoms)	1.9141E+19
Organic I (atoms)	2.6748E+19
Aerosols (kg)	1.1281E-02

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3945E+23
Elemental I (atoms)	1.9367E+19	2.1737E+18
Organic I (atoms)	2.5344E+19	2.8170E+18
Aerosols (kg)	1.4297E-02	3.1823E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	3.8536E+23
Elemental I (atoms)	1.2432E+19
Organic I (atoms)	1.7299E+19
Aerosols (kg)	7.4077E-03

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4643E-01	4.3523E-01	1.6724E-01
Accumulated dose (rem)	7.1608E-01	2.4231E+00	8.2979E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0400E-02	3.9846E-02	2.2306E-02
Accumulated dose (rem)	2.6581E-01	4.0012E-01	2.8537E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4806E-04	6.3712E-03	7.5275E-04
Accumulated dose (rem)	8.2956E-03	4.3700E+00	2.0487E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4844E+00	1.4103E-07	1.4643E+18	3.8150E+16
Co-60	5.4694E+00	4.8385E-06	4.8564E+19	4.5997E+16
Kr-85	9.9053E+05	2.5247E+00	1.7887E+25	6.3143E+21
Kr-85m	9.4635E+03	1.1499E-06	8.1472E+18	1.2154E+22
Kr-87	1.3953E-04	4.9259E-15	3.4097E+10	4.8228E+21
Kr-88	3.5573E+02	2.8369E-08	1.9414E+17	1.9400E+22
Rb-86	1.5604E+02	1.9177E-06	1.3429E+19	1.4842E+18
Sr-89	7.9964E+03	2.7524E-04	1.8624E+21	6.8356E+19
Sr-90	1.1163E+03	8.1836E-03	5.4758E+22	9.3846E+18
Sr-91	3.0690E+02	8.4663E-08	5.6028E+17	3.6033E+19
Sr-92	4.9151E-02	3.9104E-12	2.5596E+13	1.9834E+19
Y-90	4.5021E+02	8.2749E-07	5.5370E+18	1.5544E+18
Y-91	1.2561E+02	5.1218E-06	3.3895E+19	9.7615E+17
Y-92	2.5869E+00	2.6884E-10	1.7598E+15	4.3751E+18
Y-93	4.2857E+00	1.2846E-09	8.3180E+15	4.2142E+17
Zr-95	1.2016E+02	5.5934E-06	3.5457E+19	1.0236E+18
Zr-97	1.6475E+01	8.6182E-09	5.3505E+16	5.4936E+17
Nb-95	1.2240E+02	3.1301E-06	1.9842E+19	1.0292E+18
Mo-99	9.3313E+02	1.9456E-06	1.1835E+19	1.0800E+19
Tc-99m	9.5491E+02	1.8160E-07	1.1047E+18	1.0032E+19
Ru-103	1.3096E+03	4.0578E-05	2.3725E+20	1.1249E+19

Ru-105	5.4613E-01	8.1245E-11	4.6597E+14	2.3681E+18
Ru-106	6.0964E+02	1.8222E-04	1.0352E+21	5.1365E+18
Rh-105	4.1454E+02	4.9113E-07	2.8168E+18	6.1144E+18
Sb-127	1.0904E+03	4.0831E-06	1.9362E+19	1.1489E+19
Sb-129	2.1742E+00	3.8664E-10	1.8050E+15	1.1453E+19
Te-127	1.2931E+03	4.8997E-07	2.3234E+18	1.2086E+19
Te-127m	2.6445E+02	2.8036E-05	1.3294E+20	2.2254E+18
Te-129	7.2699E+02	3.4714E-08	1.6206E+17	1.5472E+19
Te-129m	8.3719E+02	2.7790E-05	1.2973E+20	7.2037E+18
Te-131m	1.0729E+03	1.3454E-06	6.1850E+18	1.8817E+19
Te-132	1.5127E+04	4.9828E-05	2.2733E+20	1.6629E+20
I-131	9.5690E+04	7.7185E-04	3.5482E+21	8.7711E+20
I-132	1.8056E+04	1.7493E-06	7.9806E+18	5.0029E+20
I-133	4.7647E+04	4.2061E-05	1.9045E+20	1.1681E+21
I-135	1.4507E+03	4.1307E-07	1.8427E+18	6.3690E+20
Xe-133	7.2400E+07	3.8679E-01	1.7513E+24	5.2708E+23
Xe-135	1.3909E+06	5.4464E-04	2.4295E+21	8.7067E+22
Cs-134	1.9231E+04	1.4864E-02	6.6799E+22	1.7461E+20
Cs-136	5.0690E+03	6.9162E-05	3.0625E+20	4.9207E+19
Cs-137	1.5516E+04	1.7838E-01	7.8413E+23	1.4073E+20
Ba-139	4.1087E-07	2.5119E-17	1.0883E+08	1.5528E+19
Ba-140	1.0885E+04	1.4868E-04	6.3955E+20	9.7827E+19
La-140	6.3740E+03	1.1468E-05	4.9328E+19	2.3190E+19
La-141	2.4043E-02	4.2513E-12	1.8157E+13	2.5947E+17
La-142	4.7533E-08	3.3205E-18	1.4082E+07	1.5067E+17
Ce-141	2.7451E+02	9.6342E-06	4.1148E+19	2.3672E+18
Ce-143	1.0206E+02	1.5368E-07	6.4720E+17	1.6664E+18
Ce-144	2.2829E+02	7.1574E-05	2.9933E+20	1.9247E+18
Pr-143	1.1602E+02	1.7229E-06	7.2556E+18	9.5289E+17
Nd-147	3.9331E+01	4.8618E-07	1.9917E+18	3.5735E+17
Np-239	1.8501E+03	7.9748E-06	2.0094E+19	2.2649E+19
Pu-238	1.0165E+00	5.9379E-05	1.5025E+20	8.5441E+15
Pu-239	8.8868E-02	1.4297E-03	3.6026E+21	7.4513E+14
Pu-240	1.6438E-01	7.2139E-04	1.8101E+21	1.3818E+15
Pu-241	3.5188E+01	3.4158E-04	8.5356E+20	2.9584E+17
Am-241	2.5737E-02	7.4989E-06	1.8738E+19	2.1476E+14
Cm-242	6.1659E+00	1.8604E-06	4.6296E+18	5.2102E+16
Cm-244	4.3466E-01	5.3727E-06	1.3260E+19	3.6544E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9641E+25	0.0000E+00	
Elemental I (atoms)	4.0469E+20	5.6172E+22	
Organic I (atoms)	7.0245E+20	0.0000E+00	
Aerosols (kg)	2.0553E-01	6.1285E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.8575E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.0593E-05
Total I (Ci)			1.6284E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Leakage Transport
Noble gases (atoms)	8.9317E+23
Elemental I (atoms)	2.5709E+19
Organic I (atoms)	3.8149E+19
Aerosols (kg)	1.4388E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2648E+27
Elemental I (atoms)	0.0000E+00	3.4262E+22
Organic I (atoms)	0.0000E+00	5.2576E+22
Aerosols (kg)	0.0000E+00	1.8580E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2508E+27
Elemental I (atoms)	0.0000E+00	3.3830E+22
Organic I (atoms)	0.0000E+00	5.1872E+22
Aerosols (kg)	0.0000E+00	1.8446E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.2672E-02	1.3420E-09	1.3934E+16	4.9474E+14
Co-60	5.2045E-02	4.6042E-08	4.6212E+17	5.9678E+14
Kr-85	9.2875E+03	2.3672E-02	1.6772E+23	7.2418E+19
Kr-85m	8.8732E+01	1.0782E-08	7.6390E+16	8.9623E+19
Kr-87	1.3082E-06	4.6186E-17	3.1970E+08	1.4057E+19
Kr-88	3.3354E+00	2.6600E-10	1.8203E+15	1.0766E+20
Rb-86	1.4908E+00	1.8322E-08	1.2830E+17	1.9667E+16
Sr-89	7.6091E+01	2.6191E-06	1.7722E+19	8.8629E+17
Sr-90	1.0622E+01	7.7872E-05	5.2106E+20	1.2176E+17
Sr-91	2.9204E+00	8.0563E-10	5.3314E+15	3.7396E+17
Sr-92	4.6770E-04	3.7210E-14	2.4357E+11	1.0690E+17
Y-90	4.2843E+00	7.8747E-09	5.2692E+16	2.1805E+16
Y-91	1.1953E+00	4.8741E-08	3.2255E+17	1.2926E+16
Y-92	2.4622E-02	2.5589E-12	1.6750E+13	9.8285E+16
Y-93	4.0781E-02	1.2223E-11	7.9152E+13	4.4520E+15
Zr-95	1.1434E+00	5.3225E-08	3.3740E+17	1.3273E+16
Zr-97	1.5677E-01	8.2008E-11	5.0914E+14	6.4500E+15
Nb-95	1.1647E+00	2.9785E-08	1.8881E+17	1.3352E+16
Mo-99	8.8793E+00	1.8513E-08	1.1262E+17	1.3790E+17
Tc-99m	9.0866E+00	1.7281E-09	1.0512E+16	1.2909E+17
Ru-103	1.2462E+01	3.8613E-07	2.2576E+18	1.4582E+17
Ru-105	5.1968E-03	7.7310E-13	4.4340E+12	1.7612E+16
Ru-106	5.8011E+00	1.7340E-06	9.8511E+18	6.6638E+16
Rh-105	3.9446E+00	4.6734E-09	2.6804E+16	7.8262E+16
Sb-127	1.0376E+01	3.8854E-08	1.8424E+17	1.4749E+17
Sb-129	2.0689E-02	3.6792E-12	1.7176E+13	8.3832E+16
Te-127	1.2305E+01	4.6624E-09	2.2108E+16	1.5625E+17
Te-127m	2.5164E+00	2.6678E-07	1.2650E+18	2.8874E+16
Te-129	6.9178E+00	3.3033E-10	1.5421E+15	1.4480E+17
Te-129m	7.9665E+00	2.6444E-07	1.2345E+18	9.3446E+16
Te-131m	1.0209E+01	1.2803E-08	5.8855E+16	2.3347E+17
Te-132	1.4395E+02	4.7415E-07	2.1632E+18	2.1297E+18
I-131	9.0917E+02	7.3335E-06	3.3713E+19	1.1236E+19
I-132	1.7182E+02	1.6646E-08	7.5941E+16	3.7383E+18
I-133	4.5270E+02	3.9963E-07	1.8095E+18	1.3978E+19
I-135	1.3783E+01	3.9247E-09	1.7508E+16	5.7630E+18
Xe-133	6.7884E+05	3.6266E-03	1.6421E+22	6.0204E+21
Xe-135	1.3042E+04	5.1070E-06	2.2781E+19	8.4838E+20
Cs-134	1.8373E+02	1.4201E-04	6.3820E+20	2.3190E+18
Cs-136	4.8429E+01	6.6078E-07	2.9260E+18	6.5136E+17
Cs-137	1.4824E+02	1.7043E-03	7.4916E+21	1.8691E+18
Ba-139	3.9097E-09	2.3903E-19	1.0356E+06	4.8520E+16
Ba-140	1.0357E+02	1.4148E-06	6.0857E+18	1.2657E+18
La-140	6.0657E+01	1.0913E-07	4.6942E+17	3.3040E+17
La-141	2.2878E-04	4.0454E-14	1.7278E+11	1.7945E+15
La-142	4.5230E-10	3.1596E-20	1.3400E+05	5.1902E+14
Ce-141	2.6122E+00	9.1676E-08	3.9155E+17	3.0688E+16
Ce-143	9.7114E-01	1.4624E-09	6.1585E+15	2.0789E+16
Ce-144	2.1723E+00	6.8108E-07	2.8483E+18	2.4970E+16
Pr-143	1.1040E+00	1.6395E-08	6.9043E+16	1.2417E+16
Nd-147	3.7426E-01	4.6263E-09	1.8953E+16	4.6212E+15
Np-239	1.7605E+01	7.5885E-08	1.9121E+17	2.8820E+17
Pu-238	9.6731E-03	5.6503E-07	1.4297E+18	1.1086E+14
Pu-239	8.4564E-04	1.3605E-05	3.4281E+19	9.6691E+12
Pu-240	1.5642E-03	6.8645E-06	1.7224E+19	1.7928E+13
Pu-241	3.3483E-01	3.2504E-06	8.1222E+18	3.8384E+15

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Am-241                 2.4491E-04  7.1357E-08  1.7831E+17  2.7872E+12
Cm-242                 5.8673E-02  1.7703E-08  4.4054E+16  6.7586E+14
Cm-244                 4.1361E-03  5.1125E-08  1.2618E+17  4.7413E+13

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.8416E+23  0.0000E+00
Elemental I (atoms)    3.8124E+18  0.0000E+00
Organic I (atoms)      6.5871E+18  0.0000E+00
Aerosols (kg)          1.9632E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.5475E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.6284E-08
Total I (Ci)                                   1.5475E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      8.9317E+23
Elemental I (atoms)      2.5709E+19
Organic I (atoms)        3.8149E+19
Aerosols (kg)            1.4388E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2854E+24
Elemental I (atoms)    3.2504E+19  3.6334E+18
Organic I (atoms)      4.7673E+19  5.2980E+18
Aerosols (kg)          2.1431E-02  4.6382E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  48.0000  Leakage Transport

Noble gases (atoms)      5.8354E+23
Elemental I (atoms)      1.6788E+19
Organic I (atoms)        2.4859E+19
Aerosols (kg)            9.4682E-03

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3028E-01  5.2302E-01  1.5684E-01
Accumulated dose (rem)  8.4636E-01  2.9462E+00  9.8664E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8150E-02  4.7883E-02  2.0582E-02
Accumulated dose (rem)  2.8396E-01  4.4801E-01  3.0595E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6185E-04  7.0430E-03  7.1952E-04
Accumulated dose (rem)  8.6574E-03  4.3770E+00  2.0559E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.2675E+00  1.3421E-07  1.3935E+18  6.6114E+16
Co-60                  5.3039E+00  4.6921E-06  4.7095E+19  8.0424E+16
Kr-85                  9.6092E+05  2.4492E+00  1.7352E+25  1.2550E+22
Kr-85m                 5.4664E+00  6.6424E-10  4.7061E+15  1.2162E+22
Kr-88                  2.8201E-03  2.2490E-13  1.5391E+12  1.9400E+22
Rb-86                  1.4059E+02  1.7278E-06  1.2099E+19  2.4313E+18
Sr-89                  7.5500E+03  2.5988E-04  1.7584E+21  1.1803E+20
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Sr-90	1.0832E+03	7.9407E-03	5.3133E+22	1.6413E+19
Sr-91	8.9738E+00	2.4755E-09	1.6383E+16	3.6572E+19
Sr-92	2.2213E-07	1.7672E-17	1.1568E+08	1.9834E+19
Y-90	7.0130E+02	1.2890E-06	8.6251E+18	5.2787E+18
Y-91	1.1985E+02	4.8870E-06	3.2341E+19	1.7617E+18
Y-92	2.2142E-04	2.3011E-14	1.5063E+11	4.3768E+18
Y-93	1.5430E-01	4.6247E-11	2.9947E+14	4.2936E+17
Zr-95	1.1411E+02	5.3117E-06	3.3672E+19	1.7721E+18
Zr-97	2.2326E+00	1.1679E-09	7.2505E+15	5.9491E+17
Nb-95	1.1861E+02	3.0331E-06	1.9227E+19	1.7990E+18
Mo-99	5.4699E+02	1.1405E-06	6.9375E+18	1.5421E+19
Tc-99m	5.6079E+02	1.0665E-07	6.4875E+17	1.4528E+19
Ru-103	1.2268E+03	3.8014E-05	2.2226E+20	1.9352E+19
Ru-105	2.9505E-04	4.3892E-14	2.5174E+11	2.3686E+18
Ru-106	5.8940E+02	1.7617E-04	1.0009E+21	8.9680E+18
Rh-105	1.5703E+02	1.8604E-07	1.0670E+18	7.8100E+18
Sb-127	7.3822E+02	2.7643E-06	1.3108E+19	1.7260E+19
Sb-129	9.5390E-04	1.6963E-13	7.9189E+11	1.1455E+19
Te-127	9.5864E+02	3.6324E-07	1.7224E+18	1.8987E+19
Te-127m	2.5541E+02	2.7078E-05	1.2840E+20	3.8868E+18
Te-129	6.7414E+02	3.2190E-08	1.5027E+17	1.8838E+19
Te-129m	7.7961E+02	2.5879E-05	1.2081E+20	1.2369E+19
Te-131m	3.4345E+02	4.3071E-07	1.9800E+18	2.2910E+19
Te-132	9.5932E+03	3.1599E-05	1.4416E+20	2.4396E+20
I-131	7.8231E+04	6.3103E-04	2.9009E+21	1.4311E+21
I-132	1.1450E+04	1.1093E-06	5.0609E+18	5.8068E+20
I-133	9.3394E+03	8.2445E-06	3.7330E+19	1.3183E+21
I-135	9.1736E+00	2.6122E-09	1.1652E+16	6.3872E+20
Xe-133	5.3946E+07	2.8820E-01	1.3050E+24	9.2797E+23
Xe-135	3.4790E+04	1.3623E-05	6.0770E+19	8.9417E+22
Cs-134	1.8628E+04	1.4398E-02	6.4706E+22	2.9559E+20
Cs-136	4.4252E+03	6.0379E-05	2.6736E+20	7.9502E+19
Cs-137	1.5056E+04	1.7309E-01	7.6086E+23	2.3842E+20
Ba-140	9.4738E+03	1.2941E-04	5.5665E+20	1.6278E+20
La-140	8.3417E+03	1.5008E-05	6.4556E+19	7.1162E+19
La-141	4.9119E-06	8.6854E-16	3.7095E+09	2.5948E+17
Ce-141	2.5527E+02	8.9591E-06	3.8264E+19	4.0595E+18
Ce-143	3.6137E+01	5.4417E-08	2.2916E+17	2.0722E+18
Ce-144	2.2046E+02	6.9121E-05	2.8907E+20	3.3587E+18
Pr-143	1.0767E+02	1.5989E-06	6.7333E+18	1.6702E+18
Nd-147	3.3642E+01	4.1585E-07	1.7036E+18	5.9008E+17
Np-239	9.9657E+02	4.2957E-06	1.0824E+19	3.1467E+19
Pu-238	9.8671E-01	5.7636E-05	1.4584E+20	1.4946E+16
Pu-239	8.6455E-02	1.3909E-03	3.5048E+21	1.3054E+15
Pu-240	1.5952E-01	7.0007E-04	1.7566E+21	2.4169E+15
Pu-241	3.4139E+01	3.3140E-04	8.2811E+20	5.1738E+17
Am-241	2.5276E-02	7.3645E-06	1.8403E+19	3.7777E+14
Cm-242	5.9330E+00	1.7901E-06	4.4547E+18	9.0763E+16
Cm-244	4.2173E-01	5.2128E-06	1.2866E+19	6.3910E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.8657E+25	0.0000E+00	
Elemental I (atoms)	3.1776E+20	5.6172E+22	
Organic I (atoms)	5.5155E+20	0.0000E+00	
Aerosols (kg)	1.9925E-01	6.1285E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9684E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.0163E-05
Total I (Ci)			9.9030E+04

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Leakage Transport
Noble gases (atoms)	1.4674E+24
Elemental I (atoms)	3.6469E+19
Organic I (atoms)	5.6825E+19
Aerosols (kg)	2.0459E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4833E+27
Elemental I (atoms)	0.0000E+00	5.7095E+22
Organic I (atoms)	0.0000E+00	9.2208E+22
Aerosols (kg)	0.0000E+00	3.1464E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4693E+27
Elemental I (atoms)	0.0000E+00	5.6663E+22
Organic I (atoms)	0.0000E+00	9.1504E+22
Aerosols (kg)	0.0000E+00	3.1330E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	3.8018E-02	1.1956E-09	1.2414E+16	7.4670E+14
Co-60	4.7252E-02	4.1802E-08	4.1956E+17	9.0696E+14
Kr-85	8.5602E+03	2.1819E-02	1.5458E+23	1.2846E+20
Kr-85m	4.8697E-02	5.9173E-12	4.1923E+13	8.9698E+19
Kr-88	2.5122E-05	2.0035E-15	1.3710E+10	1.0766E+20
Rb-86	1.2525E+00	1.5393E-08	1.0779E+17	2.8209E+16
Sr-89	6.7261E+01	2.3152E-06	1.5666E+19	1.3338E+18
Sr-90	9.6497E+00	7.0742E-05	4.7335E+20	1.8508E+17
Sr-91	7.9946E-02	2.2054E-11	1.4595E+14	3.7889E+17
Sr-92	1.9789E-09	1.5744E-19	1.0306E+06	1.0690E+17
Y-90	6.2478E+00	1.1484E-08	7.6840E+16	5.5300E+16
Y-91	1.0677E+00	4.3537E-08	2.8812E+17	2.0004E+16
Y-92	1.9726E-06	2.0501E-16	1.3419E+09	9.8301E+16
Y-93	1.3746E-03	4.1201E-13	2.6679E+12	4.5245E+15
Zr-95	1.0166E+00	4.7321E-08	2.9997E+17	2.0018E+16
Zr-97	1.9890E-02	1.0404E-11	6.4594E+13	6.8636E+15
Nb-95	1.0566E+00	2.7022E-08	1.7129E+17	2.0289E+16
Mo-99	4.8731E+00	1.0160E-08	6.1805E+16	1.7962E+17
Tc-99m	4.9960E+00	9.5013E-10	5.7796E+15	1.6968E+17
Ru-103	1.0930E+01	3.3866E-07	1.9800E+18	2.1884E+17
Ru-105	2.6285E-06	3.9103E-16	2.2427E+09	1.7616E+16
Ru-106	5.2508E+00	1.5695E-06	8.9167E+18	1.0116E+17
Rh-105	1.3990E+00	1.6574E-09	9.5059E+15	9.3595E+16
Sb-127	6.5766E+00	2.4627E-08	1.1678E+17	1.9955E+17
Sb-129	8.4981E-06	1.5112E-15	7.0548E+09	8.3848E+16
Te-127	8.5404E+00	3.2361E-09	1.5345E+16	2.1849E+17
Te-127m	2.2754E+00	2.4123E-07	1.1439E+18	4.3844E+16
Te-129	6.0058E+00	2.8678E-10	1.3388E+15	1.7513E+17
Te-129m	6.9455E+00	2.3055E-07	1.0763E+18	1.3999E+17
Te-131m	3.0598E+00	3.8371E-09	1.7640E+16	2.7051E+17
Te-132	8.5464E+01	2.8151E-07	1.2843E+18	2.8306E+18
I-131	6.9695E+02	5.6217E-06	2.5843E+19	1.6229E+19
I-132	1.0201E+02	9.8827E-09	4.5087E+16	4.4638E+18
I-133	8.3203E+01	7.3448E-08	3.3257E+17	1.5340E+19
I-135	8.1725E-02	2.3271E-11	1.0381E+14	5.7797E+18
Xe-133	4.8057E+05	2.5674E-03	1.1625E+22	9.6256E+21
Xe-135	3.0992E+02	1.2136E-07	5.4136E+17	8.6973E+20
Cs-134	1.6596E+02	1.2827E-04	5.7646E+20	3.4098E+18
Cs-136	3.9424E+01	5.3791E-07	2.3819E+18	9.2462E+17
Cs-137	1.3413E+02	1.5421E-03	6.7785E+21	2.7499E+18
Ba-140	8.4401E+01	1.1529E-06	4.9591E+18	1.8512E+18
La-140	7.4315E+01	1.3370E-07	5.7512E+17	7.6211E+17
La-141	4.3759E-08	7.7377E-18	3.3048E+07	1.7946E+15
Ce-141	2.2742E+00	7.9815E-08	3.4089E+17	4.5938E+16
Ce-143	3.2194E-01	4.8479E-10	2.0416E+15	2.4460E+16

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Ce-144                 1.9641E+00  6.1579E-07  2.5753E+18  3.7889E+16
Pr-143                 9.5918E-01  1.4244E-08  5.9986E+16  1.8881E+16
Nd-147                 2.9971E-01  3.7047E-09  1.5177E+16  6.7190E+15
Np-239                 8.8783E+00  3.8270E-08  9.6430E+16  3.6783E+17
Pu-238                 8.7905E-03  5.1347E-07  1.2992E+18  1.6853E+14
Pu-239                 7.7022E-04  1.2392E-05  3.1223E+19  1.4717E+13
Pu-240                 1.4212E-03  6.2368E-06  1.5649E+19  2.7254E+13
Pu-241                 3.0414E-01  2.9524E-06  7.3775E+18  5.8344E+15
Am-241                 2.2518E-04  6.5609E-08  1.6395E+17  4.2558E+12
Cm-242                 5.2856E-02  1.5948E-08  3.9686E+16  1.0242E+15
Cm-244                 3.7571E-03  4.6440E-08  1.1462E+17  7.2070E+13

Reactor Building Transport Group Inventory:
Time (h) =  96.0000    Atmosphere     Sump
Noble gases (atoms)    1.6621E+23  0.0000E+00
Elemental I (atoms)    2.8307E+18  0.0000E+00
Organic I (atoms)      4.9134E+18  0.0000E+00
Aerosols (kg)          1.7751E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.1166E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.1346E-08
Total I (Ci)                                   8.8224E+02

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      1.4674E+24
Elemental I (atoms)      3.6469E+19
Organic I (atoms)        5.6825E+19
Aerosols (kg)            2.0459E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2547E+24
Elemental I (atoms)    4.8875E+19  5.4524E+18
Organic I (atoms)      7.6063E+19  8.4525E+18
Aerosols (kg)          3.1509E-02  6.6949E-04

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) =  96.0000  Leakage Transport

Noble gases (atoms)      9.6434E+23
Elemental I (atoms)      2.3923E+19
Organic I (atoms)        3.7244E+19
Aerosols (kg)            1.3494E-02

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.5386E-01  2.0544E+00  5.2315E-01
Accumulated dose (rem)  1.2002E+00  5.0005E+00  1.5098E+00

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3283E-02  5.0676E-02  1.7459E-02
Accumulated dose (rem)  2.9725E-01  4.9868E-01  3.2341E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8868E-04  5.3002E-03  6.2412E-04
Accumulated dose (rem)  8.8461E-03  4.3823E+00  2.0621E-01

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.2400E+00	7.0445E-08	7.3143E+17	3.2748E+17
Co-60	3.5576E+00	3.1472E-06	3.1589E+19	4.4376E+17
Kr-85	6.4761E+05	1.6507E+00	1.1695E+25	7.8523E+22
Rb-86	3.6235E+01	4.4532E-07	3.1184E+18	8.8265E+18
Sr-89	3.5775E+03	1.2314E-04	8.3323E+20	5.5997E+20
Sr-90	7.3212E+02	5.3672E-03	3.5913E+22	9.0880E+19
Y-90	7.3597E+02	1.3527E-06	9.0515E+18	7.5258E+19
Y-91	5.9646E+01	2.4321E-06	1.6095E+19	8.9310E+18
Zr-95	5.8294E+01	2.7135E-06	1.7201E+19	8.6770E+18
Zr-97	1.1600E-11	6.0682E-21	3.7674E+04	6.0205E+17
Nb-95	7.4521E+01	1.9058E-06	1.2081E+19	9.7382E+18
Mo-99	5.2784E-01	1.1006E-09	6.6946E+15	2.1961E+19
Tc-99m	5.4117E-01	1.0292E-10	6.2605E+14	2.0894E+19
Ru-103	5.2500E+02	1.6267E-05	9.5109E+19	8.8057E+19
Ru-106	3.7999E+02	1.1358E-04	6.4528E+20	4.8607E+19
Rh-105	5.1798E-04	6.1368E-13	3.5197E+12	8.8437E+18
Sb-127	4.6332E+00	1.7349E-08	8.2268E+16	2.9280E+19
Te-127	1.5677E+02	5.9403E-08	2.8168E+17	4.6231E+19
Te-127m	1.4934E+02	1.5832E-05	7.5074E+19	2.0402E+19
Te-129	2.6695E+02	1.2747E-08	5.9507E+16	4.6345E+19
Te-129m	3.0872E+02	1.0248E-05	4.7840E+19	5.4606E+19
Te-131m	1.2737E-04	1.5973E-13	7.3429E+11	2.4837E+19
Te-132	2.5734E+01	8.4765E-08	3.8672E+17	3.7822E+20
I-131	5.6338E+03	4.5443E-05	2.0890E+20	3.7246E+21
I-132	3.0716E+01	2.9758E-09	1.3576E+16	7.1966E+20
I-133	5.8891E-06	5.1986E-15	2.3539E+10	1.3549E+21
Xe-133	1.1759E+06	6.2820E-03	2.8445E+22	2.0740E+24
Cs-134	1.2314E+04	9.5176E-03	4.2773E+22	1.5631E+21
Cs-136	7.5700E+02	1.0329E-05	4.5736E+19	2.5212E+20
Cs-137	1.0177E+04	1.1700E-01	5.1430E+23	1.2735E+21
Ba-140	1.5589E+03	2.1293E-05	9.1593E+19	5.2722E+20
La-140	1.8108E+03	3.2578E-06	1.4013E+19	4.7148E+20
Ce-141	9.9270E+01	3.4839E-06	1.4880E+19	1.7784E+19
Ce-143	4.9702E-05	7.4843E-14	3.1519E+11	2.2947E+18
Ce-144	1.4010E+02	4.3924E-05	1.8369E+20	1.8087E+19
Pr-143	2.0029E+01	2.9744E-07	1.2526E+18	6.0781E+18
Nd-147	4.4124E+00	5.4543E-08	2.2345E+17	1.7857E+18
Np-239	3.2038E-01	1.3810E-09	3.4797E+15	4.1759E+19
Pu-238	6.6982E-01	3.9126E-05	9.9001E+19	8.2921E+16
Pu-239	5.8716E-02	9.4465E-04	2.3802E+21	7.2695E+15
Pu-240	1.0801E-01	4.7399E-04	1.1893E+21	1.3393E+16
Pu-241	2.3035E+01	2.2361E-04	5.5876E+20	2.8625E+18
Am-241	1.9746E-02	5.7531E-06	1.4376E+19	2.2418E+15
Cm-242	3.5960E+00	1.0850E-06	2.7000E+18	4.7858E+17
Cm-244	2.8476E-01	3.5198E-06	8.6871E+18	3.5371E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	1.1723E+25	0.0000E+00
Elemental I (atoms)	2.2555E+19	5.6172E+22
Organic I (atoms)	3.9150E+19	0.0000E+00
Aerosols (kg)	1.3398E-01	6.1285E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		2.0943E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		2.0947E-06
Total I (Ci)		5.6645E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Leakage Transport
Noble gases (atoms)	7.1897E+24
Elemental I (atoms)	7.9754E+19
Organic I (atoms)	1.3196E+20
Aerosols (kg)	8.4566E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4627E+28
Elemental I (atoms)	0.0000E+00	1.4895E+23
Organic I (atoms)	0.0000E+00	2.5165E+23
Aerosols (kg)	0.0000E+00	1.6751E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4613E+28
Elemental I (atoms)	0.0000E+00	1.4852E+23
Organic I (atoms)	0.0000E+00	2.5094E+23
Aerosols (kg)	0.0000E+00	1.6737E+02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	1.9951E-02	6.2742E-10	6.5145E+15	3.0746E+15
Co-60	3.1686E-02	2.8031E-08	2.8135E+17	4.1431E+15
Kr-85	5.7680E+03	1.4702E-02	1.0416E+23	7.1605E+20
Rb-86	3.2273E-01	3.9663E-09	2.7774E+16	8.5168E+16
Sr-89	3.1864E+01	1.0968E-06	7.4213E+18	5.2701E+18
Sr-90	6.5207E+00	4.7803E-05	3.1986E+20	8.4834E+17
Y-90	6.5550E+00	1.2048E-08	8.0618E+16	6.7858E+17
Y-91	5.3124E-01	2.1662E-08	1.4335E+17	8.3859E+16
Zr-95	5.1920E-01	2.4168E-08	1.5320E+17	8.1518E+16
Nb-95	6.6373E-01	1.6974E-08	1.0760E+17	9.0999E+16
Mo-99	4.7013E-03	9.8022E-12	5.9626E+13	2.3786E+17
Tc-99m	4.8199E-03	9.1665E-13	5.5759E+12	2.2638E+17
Ru-103	4.6760E+00	1.4488E-07	8.4710E+17	8.3077E+17
Ru-106	3.3844E+00	1.0116E-06	5.7473E+18	4.5421E+17
Rh-105	4.6134E-06	5.4658E-15	3.1348E+10	1.0280E+17
Sb-127	4.1266E-02	1.5452E-10	7.3272E+14	3.0661E+17
Te-127	1.3963E+00	5.2908E-10	2.5088E+15	4.6114E+17
Te-127m	1.3301E+00	1.4101E-07	6.6865E+17	1.9094E+17
Te-129	2.3776E+00	1.1353E-10	5.3001E+14	4.2012E+17
Te-129m	2.7496E+00	9.1274E-08	4.2609E+17	5.1618E+17
Te-131m	1.1344E-06	1.4227E-15	6.5400E+09	2.8767E+17
Te-132	2.2920E-01	7.5497E-10	3.4443E+15	4.0264E+18
I-131	5.0178E+01	4.0474E-07	1.8606E+18	3.6657E+19
I-132	2.7358E-01	2.6504E-11	1.2092E+14	5.7016E+18
I-133	5.2451E-08	4.6302E-17	2.0965E+08	1.5666E+19
Xe-133	1.0473E+04	5.5951E-05	2.5334E+20	1.9833E+22
Cs-134	1.0968E+02	8.4770E-05	3.8097E+20	1.4699E+19
Cs-136	6.7423E+00	9.1993E-08	4.0735E+17	2.4621E+18
Cs-137	9.0641E+01	1.0421E-03	4.5806E+21	1.1969E+19
Ba-140	1.3884E+01	1.8965E-07	8.1578E+17	5.0971E+18
La-140	1.6128E+01	2.9016E-08	1.2481E+17	4.3276E+18
Ce-141	8.8415E-01	3.1030E-08	1.3253E+17	1.6817E+17
Ce-143	4.4268E-07	6.6660E-16	2.8072E+09	2.6441E+16
Ce-144	1.2478E+00	3.9122E-07	1.6361E+18	1.6907E+17
Pr-143	1.7839E-01	2.6492E-09	1.1157E+16	5.8141E+16
Nd-147	3.9300E-02	4.8579E-10	1.9901E+15	1.7368E+16
Np-239	2.8535E-03	1.2300E-11	3.0992E+13	4.5951E+17
Pu-238	5.9658E-03	3.4848E-07	8.8176E+17	7.7397E+14
Pu-239	5.2296E-04	8.4136E-06	2.1200E+19	6.7837E+13
Pu-240	9.6197E-04	4.2216E-06	1.0593E+19	1.2501E+14
Pu-241	2.0516E-01	1.9916E-06	4.9766E+18	2.6721E+16
Am-241	1.7587E-04	5.1241E-08	1.2804E+17	2.0858E+13
Cm-242	3.2028E-02	9.6637E-09	2.4048E+16	4.4783E+15
Cm-244	2.5362E-03	3.1349E-08	7.7373E+16	3.3018E+14

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	1.0441E+23	0.0000E+00

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Elemental I (atoms)    2.0089E+17  0.0000E+00
Organic I (atoms)      3.4869E+17  0.0000E+00
Aerosols (kg)          1.1933E-03  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.8759E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.8771E-10
Total I (Ci)                                   5.0451E+01

Sprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      7.1897E+24
Elemental I (atoms)      7.9754E+19
Organic I (atoms)        1.3196E+20
Aerosols (kg)            8.4566E-02

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1823E+25
Elemental I (atoms)    1.1401E+20  1.2690E+19
Organic I (atoms)      1.8913E+20  2.1015E+19
Aerosols (kg)          1.3656E-01  2.8133E-03

UnSprayed Drywell to Reactor Building Transport Group Inventory:
Time (h) = 720.0000  Leakage Transport

Noble gases (atoms)      4.7591E+24
Elemental I (atoms)      5.2628E+19
Organic I (atoms)        8.7069E+19
Aerosols (kg)            5.6007E-02

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#####################################################################
                              I-131 Summary
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              Sprayed Drywell      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.5610E+03             0.0000E+00           0.0000E+00
   0.033       2.6763E+05             0.0000E+00           0.0000E+00
   0.167       1.2414E+06             1.3603E+02           8.2936E-01
   0.417       5.4673E+05             4.1249E+02           9.2386E+00
   0.500       5.4081E+05             4.9149E+02           9.3449E+00
   0.667       8.5902E+05             7.0111E+02           9.6247E+00
   0.920       8.9582E+05             1.0774E+03           1.0266E+01
   1.170       9.0720E+05             1.4678E+03           1.1178E+01
   1.420       9.1504E+05             1.8653E+03           1.2380E+01
   1.670       9.2086E+05             2.2632E+03           1.3877E+01
   1.920       9.2539E+05             2.6574E+03           1.5671E+01
   2.000       9.2665E+05             2.7824E+03           1.6307E+01
   2.200       1.1541E+05             2.9310E+03           1.7995E+01
   2.300       8.0527E+04             2.9603E+03           1.8865E+01
   2.600       1.6628E+05             3.0202E+03           2.1533E+01
   2.900       1.6814E+05             3.0564E+03           2.4275E+01
   3.200       1.4988E+05             3.0689E+03           2.7073E+01
   3.500       1.2940E+05             3.0617E+03           2.9908E+01
   3.800       1.1124E+05             3.0389E+03           3.2768E+01
   4.000       1.0085E+05             3.0167E+03           3.4683E+01
   4.300       1.1051E+05             2.9806E+03           3.7562E+01
   4.600       1.1395E+05             2.9456E+03           4.0448E+01
   4.900       1.1512E+05             2.9117E+03           4.3340E+01
   5.200       1.1544E+05             2.8790E+03           4.6238E+01
   5.500       1.1546E+05             2.8473E+03           4.9142E+01
   5.800       1.1536E+05             2.8167E+03           5.2051E+01
   6.100       1.1522E+05             2.7870E+03           5.4965E+01
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6.400	1.1506E+05	2.7583E+03	5.7884E+01
6.700	1.1490E+05	2.7305E+03	6.0807E+01
7.000	1.1474E+05	2.7036E+03	6.3734E+01
7.300	1.1458E+05	2.6776E+03	6.6665E+01
7.600	1.1441E+05	2.6524E+03	6.9599E+01
7.900	1.1425E+05	2.6280E+03	7.2536E+01
8.000	1.1419E+05	2.6200E+03	7.3516E+01
8.300	1.1403E+05	2.5966E+03	7.6457E+01
8.600	1.1387E+05	2.5740E+03	7.9401E+01
8.900	1.1370E+05	2.5520E+03	8.2347E+01
9.200	1.1354E+05	2.5307E+03	8.5294E+01
9.500	1.1338E+05	2.5101E+03	8.8244E+01
9.800	1.1322E+05	2.4901E+03	9.1195E+01
10.100	1.1305E+05	2.4708E+03	9.4148E+01
10.400	1.1289E+05	2.4520E+03	9.7102E+01
16.000	1.0991E+05	2.1870E+03	1.5220E+02
24.000	1.0578E+05	1.9776E+03	2.2984E+02
48.000	9.5690E+04	9.0917E+02	3.7707E+02
96.000	7.8231E+04	6.9695E+02	5.6858E+02
720.000	5.6338E+03	5.0178E+01	1.3525E+03

Time (hr)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	1.6800E+00
0.033	0.0000E+00	5.8218E+03
0.167	1.3227E-03	1.2677E+05
0.417	1.0649E-02	2.5392E+05
0.500	7.2733E-03	2.7004E+05
0.667	3.3843E-03	3.3807E+05
0.920	2.2404E-03	4.3657E+05
1.170	1.4917E-03	4.9982E+05
1.420	9.9382E-04	5.4054E+05
1.670	6.6283E-04	5.6696E+05
1.920	4.4290E-04	5.8428E+05
2.000	3.8951E-04	5.8849E+05
2.200	2.8199E-04	4.6252E+05
2.300	2.4003E-04	3.8981E+05
2.600	1.4840E-04	2.5540E+05
2.900	9.2234E-05	1.9093E+05
3.200	5.7808E-05	1.5208E+05
3.500	3.6711E-05	1.2477E+05
3.800	2.3782E-05	1.0401E+05
4.000	1.8082E-05	9.2727E+04
4.300	1.2364E-05	8.2797E+04
4.600	8.8607E-06	7.9073E+04
4.900	6.7146E-06	7.7632E+04
5.200	5.4010E-06	7.7032E+04
5.500	4.5979E-06	7.6742E+04
5.800	4.1076E-06	7.6566E+04
6.100	3.8091E-06	7.6432E+04
6.400	3.6280E-06	7.6314E+04
6.700	3.5189E-06	7.6201E+04
7.000	3.4537E-06	7.6091E+04
7.300	3.4154E-06	7.5982E+04
7.600	3.3934E-06	7.5873E+04
7.900	3.3812E-06	7.5764E+04
8.000	3.3787E-06	7.5728E+04
8.300	2.9430E-06	7.5620E+04
8.600	2.6766E-06	7.5512E+04
8.900	2.5138E-06	7.5403E+04
9.200	2.4146E-06	7.5296E+04
9.500	2.3543E-06	7.5188E+04
9.800	2.3178E-06	7.5080E+04
10.100	2.2958E-06	7.4973E+04
10.400	2.2826E-06	7.4865E+04
16.000	2.2579E-06	7.2888E+04
24.000	2.2098E-06	7.0149E+04

48.000	4.4738E-07	6.3458E+04
96.000	3.4357E-07	5.1880E+04
720.000	7.0542E-09	3.7361E+03

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

Time (hr)	Exclusion Area Bounda Thyroid (rem)	Exclusion Area Bounda TEDE (rem)	Low Population Zone Thyroid (rem)	Low Population Zone TEDE (rem)	Control Room Thyroid (rem)	Control Room TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.1253E-01	5.7074E-03	1.1791E-02	5.9803E-04	4.4482E-02	2.0066E-03
0.417	1.2507E+00	6.3609E-02	1.3105E-01	6.6650E-03	1.2450E+00	5.6163E-02
0.500	1.2557E+00	6.4253E-02	1.3194E-01	6.7792E-03	1.8659E+00	8.4171E-02
0.667	1.2567E+00	6.4416E-02	1.3319E-01	6.9796E-03	2.5806E+00	1.1641E-01
0.920	1.2591E+00	6.5005E-02	1.3607E-01	7.7051E-03	3.1713E+00	1.4307E-01
1.170	1.2624E+00	6.6227E-02	1.4017E-01	9.2105E-03	3.5571E+00	1.6049E-01
1.420	1.2668E+00	6.8292E-02	1.4559E-01	1.1753E-02	3.8132E+00	1.7208E-01
1.670	1.2723E+00	7.1354E-02	1.5233E-01	1.5524E-02	3.9835E+00	1.7981E-01
1.920	1.2788E+00	7.5525E-02	1.6040E-01	2.0660E-02	4.0967E+00	1.8500E-01
2.000	1.2812E+00	7.7107E-02	1.6326E-01	2.2609E-02	4.1243E+00	1.8627E-01
2.200	1.2873E+00	8.1627E-02	1.6653E-01	2.5003E-02	4.1796E+00	1.8885E-01
2.300	1.2905E+00	8.4140E-02	1.6820E-01	2.6334E-02	4.2011E+00	1.8986E-01
2.600	1.3002E+00	9.2548E-02	1.7334E-01	3.0788E-02	4.2484E+00	1.9211E-01
2.900	1.3101E+00	1.0206E-01	1.7860E-01	3.5825E-02	4.2776E+00	1.9355E-01
3.200	1.3202E+00	1.1244E-01	1.8394E-01	4.1323E-02	4.2958E+00	1.9450E-01
3.500	1.3304E+00	1.2350E-01	1.8934E-01	4.7181E-02	4.3072E+00	1.9516E-01
3.800	1.3406E+00	1.3507E-01	1.9477E-01	5.3312E-02	4.3145E+00	1.9565E-01
4.000	1.3475E+00	1.4301E-01	1.9839E-01	5.7514E-02	4.3179E+00	1.9591E-01
4.300	1.3577E+00	1.5515E-01	2.0381E-01	6.3944E-02	4.3215E+00	1.9624E-01
4.600	1.3680E+00	1.6748E-01	2.0924E-01	7.0479E-02	4.3241E+00	1.9652E-01
4.900	1.3782E+00	1.7993E-01	2.1465E-01	7.7073E-02	4.3260E+00	1.9678E-01
5.200	1.3884E+00	1.9243E-01	2.2006E-01	8.3690E-02	4.3275E+00	1.9703E-01
5.500	1.3986E+00	2.0490E-01	2.2545E-01	9.0299E-02	4.3287E+00	1.9726E-01
5.800	1.4088E+00	2.1732E-01	2.3085E-01	9.6873E-02	4.3297E+00	1.9749E-01
6.100	1.4189E+00	2.2962E-01	2.3623E-01	1.0339E-01	4.3307E+00	1.9772E-01
6.400	1.4291E+00	2.4179E-01	2.4160E-01	1.0984E-01	4.3316E+00	1.9794E-01
6.700	1.4392E+00	2.5380E-01	2.4697E-01	1.1620E-01	4.3324E+00	1.9816E-01
7.000	1.4493E+00	2.6563E-01	2.5232E-01	1.2246E-01	4.3333E+00	1.9837E-01
7.300	1.4594E+00	2.7725E-01	2.5767E-01	1.2862E-01	4.3341E+00	1.9858E-01
7.600	1.4695E+00	2.8866E-01	2.6301E-01	1.3466E-01	4.3349E+00	1.9879E-01
7.900	1.4795E+00	2.9985E-01	2.6833E-01	1.4059E-01	4.3357E+00	1.9900E-01
8.000	1.4829E+00	3.0353E-01	2.7011E-01	1.4254E-01	4.3360E+00	1.9907E-01
8.300	1.4929E+00	3.1442E-01	2.7190E-01	1.4623E-01	4.3368E+00	1.9926E-01
8.600	1.5029E+00	3.2507E-01	2.7368E-01	1.4985E-01	4.3374E+00	1.9942E-01
8.900	1.5129E+00	3.3549E-01	2.7547E-01	1.5338E-01	4.3380E+00	1.9957E-01
9.200	1.5229E+00	3.4568E-01	2.7725E-01	1.5683E-01	4.3386E+00	1.9971E-01
9.500	1.5328E+00	3.5563E-01	2.7902E-01	1.6020E-01	4.3392E+00	1.9984E-01
9.800	1.5428E+00	3.6536E-01	2.8080E-01	1.6350E-01	4.3397E+00	1.9997E-01
10.100	1.5527E+00	3.7486E-01	2.8257E-01	1.6671E-01	4.3403E+00	2.0009E-01
10.400	1.5626E+00	3.8413E-01	2.8433E-01	1.6985E-01	4.3408E+00	2.0022E-01
16.000	1.7434E+00	5.2673E-01	3.1662E-01	2.1787E-01	4.3505E+00	2.0213E-01
24.000	1.9879E+00	6.6255E-01	3.6028E-01	2.6307E-01	4.3636E+00	2.0412E-01
48.000	2.4231E+00	8.2979E-01	4.0012E-01	2.8537E-01	4.3700E+00	2.0487E-01
96.000	2.9462E+00	9.8664E-01	4.4801E-01	3.0595E-01	4.3770E+00	2.0559E-01
720.000	5.0005E+00	1.5098E+00	4.9868E-01	3.2341E-01	4.3823E+00	2.0621E-01

```
#####################################################################
                        Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
4.3	7.8981E-02	6.7960E-02	8.2591E-02

Attachment 12.2c - RADTRAD Output File "DRE3CL395.o0" (GNF3 Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:13:01
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3ES395_GNF3.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_i.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden Unit 2 & 3 ESF Leakage - Core Burnup = 39 GWD/MTU, ESF Leakage = 2 gpm, Flashing Factor
10%, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 395 cfm for >0.6667 hrs, and CREV
Initiation @ 40 Minutes
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   4
 Compartment 1:
 Suppression Pool
   3
  1.1000E+05
   0
   0
   0
   0
   0
 Compartment 2:
 Reactor Building
   3
  2.2500E+06
   0
   0
   0
   0
   0
 Compartment 3:
 Environment
   2
  0.0000E+00
   0
   0
   0
   0
   0
```

```
Compartment 4:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
Suppression Pool to Reactor Building
  1
  2
  2
Pathway 2:
Reactor Building to Environment
  2
  3
  2
Pathway 3:
Filtered Intake to Control Room
  3
  4
  2
Pathway 4:
Unfiltered Inleakage to Control Room
  3
  4
  2
Pathway 5:
Control Room Exhaust to Environment
  4
  3
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_i.rft
  0.0000E+00
  1
  0.0000E+00   9.7000E-01   3.0000E-02   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  4
Compartment 1:
  0
  1
  0
  0
  0
  0
  0
  0
```

```
  0
Compartment 2:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
  5
Pathway 1:
  0
  0
  0
  0
  0
  1
  3
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.6740E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
  4
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.4000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.1700E-01   4.4000E+03   9.8000E+01   9.0000E+01   9.0000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
```

```
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  1.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  4.8000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  1.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  4.8000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  3
  1
  4
  0.0000E+00   2.5100E-04
  4.1700E-01   8.7400E-05
  5.0000E-01   6.7400E-06
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  3
  1
  8
  0.0000E+00   2.6300E-05
  4.1700E-01   1.5500E-05
  5.0000E-01   8.3000E-06
  2.0000E+00   3.5700E-06
  8.0000E+00   2.3400E-06
  2.4000E+01   9.3900E-07
  9.6000E+01   2.5300E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  4
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  7
  0.0000E+00   6.4400E-04
  4.1700E-01   6.4200E-06
  2.0000E+00   2.8700E-06
  8.0000E+00   1.9200E-06
  2.4000E+01   8.0300E-07
  9.6000E+01   2.2900E-07
  7.2000E+02   0.0000E+00
Simulation Parameters:
```

```
  8
  0.0000E+00   1.0000E-02
  4.1700E-01   1.0000E-02
  2.0000E+00   1.0000E-01
  4.0000E+00   1.0000E+00
  8.0000E+00   2.0000E+00
  2.4000E+01   4.0000E+00
  9.6000E+01   8.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3ES395_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:13:01
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   4

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Suppression Pool
Compartment volume =   1.1000E+05 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  1
   Exit Pathway Number    1: Suppression Pool to Reactor Building

Compartment number  2
Name: Reactor Building
Compartment volume =   2.2500E+06 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Suppression Pool to Reactor Building
   Exit Pathway Number    2: Reactor Building to Environment

Compartment number  3
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  3
   Inlet Pathway Number   2: Reactor Building to Environment
   Inlet Pathway Number   5: Control Room Exhaust to Environment
   Exit Pathway Number    3: Filtered Intake to Control Room
   Exit Pathway Number    4: Unfiltered Inleakage to Control Room

Compartment number  4
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  4
   Inlet Pathway Number   3: Filtered Intake to Control Room
   Inlet Pathway Number   4: Unfiltered Inleakage to Control Room
```

```
   Exit Pathway Number    5: Control Room Exhaust to Environment

Total number of pathways =   5
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:13:01
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
             0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
IODINE       5.0000E-02     2.5000E-01      0.0000E+00        2.635E+02
CESIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
TELLURIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
STRONTIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
BARIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
RUTHENIUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
CERIUM       0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00
LANTHANUM    0.0000E+00     0.0000E+00      0.0000E+00        0.000E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)      (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 I-131     2   2.723E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.976E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.668E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.497E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.349E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10

Nuclide    Daughter  Fraction   Daughter  Fraction   Daughter  Fraction
 Kr-85m    Kr-85      0.21       none       0.00       none       0.00
 Kr-87     Rb-87      1.00       none       0.00       none       0.00
 Kr-88     Rb-88      1.00       none       0.00       none       0.00
 Sr-90     Y-90       1.00       none       0.00       none       0.00
 Sr-91     Y-91m      0.58       Y-91       0.42       none       0.00
 Sr-92     Y-92       1.00       none       0.00       none       0.00
 Y-93      Zr-93      1.00       none       0.00       none       0.00
 Zr-95     Nb-95m     0.01       Nb-95      0.99       none       0.00
 Zr-97     Nb-97m     0.95       Nb-97      0.05       none       0.00
 Mo-99     Tc-99m     0.88       Tc-99      0.12       none       0.00
 Tc-99m    Tc-99      1.00       none       0.00       none       0.00
 Ru-103    Rh-103m    1.00       none       0.00       none       0.00
 Ru-105    Rh-105     1.00       none       0.00       none       0.00
 Ru-106    Rh-106     1.00       none       0.00       none       0.00
 Sb-127    Te-127m    0.18       Te-127     0.82       none       0.00
 Sb-129    Te-129m    0.22       Te-129     0.77       none       0.00
 Te-127m   Te-127     0.98       none       0.00       none       0.00
 Te-129    I-129      1.00       none       0.00       none       0.00
 Te-129m   Te-129     0.65       I-129      0.35       none       0.00
 Te-131m   Te-131     0.22       I-131      0.78       none       0.00
 Te-132    I-132      1.00       none       0.00       none       0.00
 I-131     Xe-131m    0.01       none       0.00       none       0.00
 I-133     Xe-133m    0.03       Xe-133     0.97       none       0.00
 I-135     Xe-135m    0.15       Xe-135     0.85       none       0.00
 Xe-135    Cs-135     1.00       none       0.00       none       0.00
 Cs-137    Ba-137m    0.95       none       0.00       none       0.00
 Ba-140    La-140     1.00       none       0.00       none       0.00
 La-141    Ce-141     1.00       none       0.00       none       0.00
 Ce-143    Pr-143     1.00       none       0.00       none       0.00
 Ce-144    Pr-144m    0.02       Pr-144     0.98       none       0.00
```

Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 0.0000E+00
Elemental = 9.7000E-01
Organic = 3.0000E-02

COMPARTMENT DATA

Compartment number 1: Suppression Pool

Compartment number 2: Reactor Building

Compartment number 3: Environment

Compartment number 4: Control Room

PATHWAY DATA

Pathway number 1: Suppression Pool to Reactor Building

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: Reactor Building to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
4.1700E-01	8.7400E-05
5.0000E-01	6.7400E-06
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
4.1700E-01	1.5500E-05
5.0000E-01	8.3000E-06
2.0000E+00	3.5700E-06
8.0000E+00	2.3400E-06
2.4000E+01	9.3900E-07
9.6000E+01	2.5300E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

```
     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          6.4400E-04
       4.1700E-01          6.4200E-06
       2.0000E+00          2.8700E-06
       8.0000E+00          1.9200E-06
       2.4000E+01          8.0300E-07
       9.6000E+01          2.2900E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-02
      4.1700E-01       1.0000E-02
      2.0000E+00       1.0000E-01
      4.0000E+00       1.0000E+00
      8.0000E+00       2.0000E+00
      2.4000E+01       4.0000E+00
      9.6000E+01       8.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/06/2019  at 22:13:01
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Reactor Building Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         0.0000E+00
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   0.0000E+00
Total I (Ci)                                   0.0000E+00

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.6989E-05  2.2007E-02  7.9200E-04
Accumulated dose (rem)  9.6989E-05  2.2007E-02  7.9200E-04

Low Population Zone Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0163E-05  2.3059E-03  8.2986E-05
Accumulated dose (rem)  1.0163E-05  2.3059E-03  8.2986E-05

Control Room Doses:

Time (h) =   0.4170    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.2468E-06  1.9091E-02  6.0611E-04
Accumulated dose (rem)  3.2468E-06  1.9091E-02  6.0611E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.4170       Ci           kg         Atoms      Decay
I-131                  1.0169E+01  8.2026E-08  3.7708E+17  1.9363E+14
I-132                  1.3652E+01  1.3226E-09  6.0340E+15  2.6555E+14
I-133                  2.0905E+01  1.8454E-08  8.3559E+16  3.9930E+14
I-134                  1.7474E+01  6.5501E-10  2.9437E+15  3.6187E+14
I-135                  1.9149E+01  5.4526E-09  2.4323E+16  3.6849E+14
Xe-133                 3.1566E-02  1.6864E-10  7.6359E+14  4.3915E+11
Xe-135                 3.5104E-01  1.3746E-10  6.1320E+14  4.9128E+12

Reactor Building Transport Group Inventory:
Time (h) =   0.4170    Atmosphere     Sump
Noble gases (atoms)    1.3768E+15  0.0000E+00
Elemental I (atoms)    4.7912E+17  0.0000E+00
Organic I (atoms)      1.4818E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.2448E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.8472E-10
Total I (Ci)                                   8.1348E+01

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.9813E+14
Elemental I (atoms)    0.0000E+00  4.8843E+17
Organic I (atoms)      0.0000E+00  1.5106E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.4170     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6526E+13
Elemental I (atoms)    0.0000E+00  7.7709E+15
Organic I (atoms)      0.0000E+00  2.4034E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.3453E-06  5.5733E-04  1.9934E-05
Accumulated dose (rem)  9.9334E-05  2.2564E-02  8.1193E-04
```

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.1594E-07	9.8839E-05	3.5351E-06
Accumulated dose (rem)	1.0579E-05	2.4047E-03	8.6521E-05

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9201E-06	1.1825E-02	3.7509E-04
Accumulated dose (rem)	5.1669E-06	3.0917E-02	9.8121E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
I-131	1.4597E+01	1.1774E-07	5.4127E+17	3.3271E+14
I-132	1.9278E+01	1.8676E-09	8.5205E+15	4.5074E+14
I-133	2.9933E+01	2.6424E-08	1.1965E+17	6.8483E+14
I-134	2.3496E+01	8.8075E-10	3.9582E+15	5.9276E+14
I-135	2.7256E+01	7.7612E-09	3.4621E+16	6.2922E+14
Xe-133	5.4115E-02	2.8910E-10	1.3090E+15	9.0533E+11
Xe-135	5.9825E-01	2.3427E-10	1.0450E+15	1.0080E+13

Reactor Building Transport Group Inventory:

Time (h) = 0.5000	Atmosphere	Sump
Noble gases (atoms)	2.3541E+15	0.0000E+00
Elemental I (atoms)	6.8678E+17	0.0000E+00
Organic I (atoms)	2.1241E+16	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		3.2187E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.0748E-10
Total I (Ci)		1.1456E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2001E+15
Elemental I (atoms)	0.0000E+00	7.0281E+17
Organic I (atoms)	0.0000E+00	2.1736E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4137E+13
Elemental I (atoms)	5.0836E+15	8.3358E+15
Organic I (atoms)	1.5723E+14	2.5781E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7364E-07	1.4214E-04	5.0567E-06
Accumulated dose (rem)	9.9908E-05	2.2706E-02	8.1699E-04

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0641E-07	1.7504E-04	6.2271E-06
Accumulated dose (rem)	1.1285E-05	2.5798E-03	9.2749E-05

Control Room Doses:

Time (h) = 0.6667 Whole Body Thyroid TEDE

```
Delta dose (rem)        2.1245E-06  1.3653E-02  4.3273E-04
Accumulated dose (rem)  7.2914E-06  4.4570E-02  1.4139E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   0.6667       Ci           kg         Atoms      Decay
I-131                  2.6921E+01  2.1715E-07  9.9825E+17  7.9200E+14
I-132                  3.4550E+01  3.3472E-09  1.5271E+16  1.0480E+15
I-133                  5.4930E+01  4.8490E-08  2.1956E+17  1.6241E+15
I-134                  3.8002E+01  1.4245E-09  6.4021E+15  1.2810E+15
I-135                  4.9424E+01  1.4073E-08  6.2780E+16  1.4789E+15
Xe-133                 1.2818E-01  6.8477E-10  3.1006E+15  2.8469E+12
Xe-135                 1.4003E+00  5.4833E-10  2.4460E+15  3.1400E+13

Reactor Building Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    5.5466E+15  0.0000E+00
Elemental I (atoms)    1.2632E+18  0.0000E+00
Organic I (atoms)      3.9068E+16  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         5.9233E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   7.4725E-10
Total I (Ci)                                   2.0383E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8558E+15
Elemental I (atoms)    0.0000E+00  1.3013E+18
Organic I (atoms)      0.0000E+00  4.0247E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0741E+14
Elemental I (atoms)    2.1889E+16  1.0203E+16
Organic I (atoms)      6.7697E+14  3.1556E+14
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4457E-05  7.7489E-03  2.6802E-04
Accumulated dose (rem)  1.2437E-04  3.0455E-02  1.0850E-03

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.0118E-05  9.5424E-03  3.3005E-04
Accumulated dose (rem)  4.1403E-05  1.2122E-02  4.2280E-04

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.9713E-06  3.0211E-02  9.5455E-04
Accumulated dose (rem)  1.1263E-05  7.4781E-02  2.3685E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   2.0000       Ci           kg         Atoms      Decay
I-131                  3.0456E+02  2.4566E-06  1.1293E+19  2.5867E+16
I-132                  3.0973E+02  3.0006E-08  1.3690E+17  2.8741E+16
I-133                  5.9710E+02  5.2709E-07  2.3866E+18  5.1448E+16
I-134                  1.5049E+02  5.6413E-09  2.5353E+16  1.9539E+16
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I-135                  4.8837E+02  1.3906E-07  6.2034E+17  4.3575E+16
Xe-133                 4.0163E+00  2.1457E-08  9.7154E+16  2.5927E+14
Xe-135                 3.9899E+01  1.5624E-08  6.9696E+16  2.6488E+15

Reactor Building Transport Group Inventory:
Time (h) =   2.0000    Atmosphere     Sump
Noble gases (atoms)    1.6685E+17  0.0000E+00
Elemental I (atoms)    1.4029E+19  0.0000E+00
Organic I (atoms)      4.3387E+17  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.5933E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.1384E-09
Total I (Ci)                                   1.8502E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.2368E+16
Elemental I (atoms)    0.0000E+00  1.5241E+19
Organic I (atoms)      0.0000E+00  4.7136E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.5536E+15
Elemental I (atoms)    9.3621E+17  1.1179E+17
Organic I (atoms)      2.8955E+16  3.4575E+15
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1756E-04  4.8860E-02  1.6472E-03
Accumulated dose (rem)  2.4193E-04  7.9315E-02  2.7322E-03

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.2269E-05  2.5880E-02  8.7246E-04
Accumulated dose (rem)  1.0367E-04  3.8002E-02  1.2953E-03

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.0992E-07  6.8288E-03  2.1457E-04
Accumulated dose (rem)  1.1973E-05  8.1610E-02  2.5831E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   4.0000       Ci           kg         Atoms      Decay
I-131                  8.7097E+02  7.0254E-06  3.2296E+19  1.8939E+17
I-132                  5.2352E+02  5.0719E-08  2.3139E+17  1.5476E+17
I-133                  1.6088E+03  1.4202E-06  6.4305E+18  3.6126E+17
I-134                  8.9156E+01  3.3421E-09  1.5020E+16  5.5515E+16
I-135                  1.1404E+03  3.2474E-07  1.4486E+18  2.7726E+17
Xe-133                 2.7000E+01  1.4424E-07  6.5312E+17  3.9494E+15
Xe-135                 2.3311E+02  9.1283E-08  4.0720E+17  3.6198E+16

Reactor Building Transport Group Inventory:
Time (h) =   4.0000    Atmosphere     Sump
Noble gases (atoms)    1.0603E+18  0.0000E+00
Elemental I (atoms)    3.9209E+19  0.0000E+00
Organic I (atoms)      1.2126E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
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Dose Effective (Ci/cc) I-131 (Thyroid)         1.8442E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.2229E-08
Total I (Ci)                                   4.2329E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.5187E+17
Elemental I (atoms)    0.0000E+00  4.7662E+19
Organic I (atoms)      0.0000E+00  1.4741E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3750E+17
Elemental I (atoms)    6.6946E+18  7.5162E+17
Organic I (atoms)      2.0705E+17  2.3246E+16
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6931E-04  2.0466E-01  6.7439E-03
Accumulated dose (rem)  6.1124E-04  2.8398E-01  9.4761E-03

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9561E-04  1.0841E-01  3.5721E-03
Accumulated dose (rem)  2.9929E-04  1.4641E-01  4.8673E-03

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7680E-06  1.4875E-02  4.6504E-04
Accumulated dose (rem)  1.3741E-05  9.6484E-02  3.0481E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =   8.0000       Ci           kg         Atoms      Decay
I-131                  1.6523E+03  1.3328E-05  6.1268E+19  8.8452E+17
I-132                  3.0700E+02  2.9741E-08  1.3569E+17  3.8721E+17
I-133                  2.7097E+03  2.3920E-06  1.0831E+19  1.5647E+18
I-134                  7.2600E+00  2.7215E-10  1.2231E+15  7.4161E+16
I-135                  1.4428E+03  4.1084E-07  1.8327E+18  1.0107E+18
Xe-133                 1.1106E+02  5.9333E-07  2.6865E+18  3.9214E+16
Xe-135                 7.2188E+02  2.8268E-07  1.2610E+18  2.9330E+17

Reactor Building Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    3.9475E+18  0.0000E+00
Elemental I (atoms)    7.1846E+19  0.0000E+00
Organic I (atoms)      2.2220E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.3697E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.9361E-08
Total I (Ci)                                   6.1190E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1813E+18
Elemental I (atoms)    0.0000E+00  1.0993E+20
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Organic I (atoms)      0.0000E+00  3.3998E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2781E+18
Elemental I (atoms)    3.0841E+19  3.4346E+18
Organic I (atoms)      9.5385E+17  1.0622E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.6403E-04  6.2960E-01  2.0365E-02
Accumulated dose (rem)  1.4753E-03  9.1358E-01  2.9841E-02

Low Population Zone Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.9997E-04  1.1241E-01  3.7818E-03
Accumulated dose (rem)  5.9926E-04  2.5882E-01  8.6491E-03

Control Room Doses:

Time (h) =  16.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1976E-06  3.3644E-02  1.0463E-03
Accumulated dose (rem)  1.7938E-05  1.3013E-01  4.0944E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  16.0000       Ci           kg         Atoms      Decay
I-131                  2.3893E+03  1.9273E-05  8.8598E+19  3.1257E+18
I-132                  4.1242E+01  3.9955E-09  1.8228E+16  5.3550E+17
I-133                  3.0889E+03  2.7268E-06  1.2347E+19  4.8122E+18
I-134                  1.9345E-02  7.2516E-13  3.2590E+12  7.5513E+16
I-135                  9.2799E+02  2.6424E-07  1.1788E+18  2.3190E+18
Xe-133                 3.0565E+02  1.6329E-06  7.3936E+18  2.6076E+17
Xe-135                 1.1316E+03  4.4311E-07  1.9766E+18  1.3456E+18

Reactor Building Transport Group Inventory:
Time (h) =  16.0000    Atmosphere     Sump
Noble gases (atoms)    9.3703E+18  0.0000E+00
Elemental I (atoms)    9.9077E+19  0.0000E+00
Organic I (atoms)      3.0643E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.5997E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1696E-08
Total I (Ci)                                   6.4475E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1938E+19
Elemental I (atoms)    0.0000E+00  2.2697E+20
Organic I (atoms)      0.0000E+00  7.0196E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  16.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.6001E+18
Elemental I (atoms)    1.0561E+20  1.1742E+19
Organic I (atoms)      3.2661E+18  3.6315E+17
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Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.7143E-04  7.2861E-01  2.3241E-02
Accumulated dose (rem)  2.2467E-03  1.6422E+00  5.3081E-02

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6782E-04  1.3009E-01  4.2797E-03
Accumulated dose (rem)  8.6708E-04  3.8892E-01  1.2929E-02

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.3139E-06  3.8658E-02  1.1965E-03
Accumulated dose (rem)  2.2252E-05  1.6879E-01  5.2909E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
I-131                  2.6194E+03  2.1128E-05  9.7128E+19  5.8404E+18
I-132                  4.1810E+00  4.0506E-10  1.8480E+15  5.5309E+17
I-133                  2.6695E+03  2.3565E-06  1.0670E+19  7.9305E+18
I-134                  3.9077E-05  1.4648E-15  6.5832E+09  7.5517E+16
I-135                  4.5249E+02  1.2885E-07  5.7476E+17  3.0377E+18
Xe-133                 4.5796E+02  2.4466E-06  1.1078E+19  6.6696E+17
Xe-135                 9.6741E+02  3.7882E-07  1.6899E+18  2.4757E+18

Reactor Building Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    1.2768E+19  0.0000E+00
Elemental I (atoms)    1.0512E+20  0.0000E+00
Organic I (atoms)      3.2512E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.8292E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.2905E-08
Total I (Ci)                                   5.7455E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3647E+19
Elemental I (atoms)    0.0000E+00  3.3649E+20
Organic I (atoms)      0.0000E+00  1.0407E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8011E+19
Elemental I (atoms)    1.9300E+20  2.1452E+19
Organic I (atoms)      5.9691E+18  6.6348E+17
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3951E-03  2.1280E+00  6.6697E-02
Accumulated dose (rem)  3.6418E-03  3.7702E+00  1.1978E-01

Low Population Zone Doses:
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Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9436E-04  1.9482E-01  6.1729E-03
Accumulated dose (rem)  1.0614E-03  5.8374E-01  1.9102E-02

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0650E-06  2.9840E-02  9.1787E-04
Accumulated dose (rem)  2.4317E-05  1.9863E-01  6.2088E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) =  48.0000       Ci           kg         Atoms      Decay
I-131                  2.5673E+03  2.0708E-05  9.5196E+19  1.4260E+19
I-132                  3.2294E-03  3.1286E-13  1.4273E+12  5.5499E+17
I-133                  1.2817E+03  1.1315E-06  5.1231E+18  1.4075E+19
I-135                  3.9023E+01  1.1112E-08  4.9568E+16  3.5860E+18
Xe-133                 6.6298E+02  3.5419E-06  1.6037E+19  2.5211E+18
Xe-135                 2.5644E+02  1.0042E-07  4.4795E+17  4.2697E+18

Reactor Building Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    1.6485E+19  0.0000E+00
Elemental I (atoms)    9.7357E+19  0.0000E+00
Organic I (atoms)      3.0110E+18  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         4.3660E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.5723E-08
Total I (Ci)                                   3.8880E+03

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7016E+19
Elemental I (atoms)    0.0000E+00  6.3221E+20
Organic I (atoms)      0.0000E+00  1.9553E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0441E+19
Elemental I (atoms)    4.5294E+20  5.0335E+19
Organic I (atoms)      1.4009E+19  1.5567E+18
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1623E-03  3.5572E+00  1.0979E-01
Accumulated dose (rem)  4.8041E-03  7.3274E+00  2.2956E-01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6193E-04  3.2566E-01  1.0107E-02
Accumulated dose (rem)  1.2234E-03  9.0940E-01  2.9208E-02

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2315E-06  4.7841E-02  1.4621E-03
Accumulated dose (rem)  2.5549E-05  2.4647E-01  7.6709E-03

Reactor Building Compartment Nuclide Inventory:
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Time (h) = 96.0000	Ci	kg	Atoms	Decay
I-131	2.1680E+03	1.7487E-05	8.0389E+19	2.9383E+19
I-132	1.6914E-09	1.6386E-19	7.4755E+05	5.5499E+17
I-133	2.5976E+02	2.2931E-07	1.0383E+18	1.8175E+19
I-135	2.5515E-01	7.2653E-11	3.2409E+14	3.6354E+18
Xe-133	6.5080E+02	3.4768E-06	1.5743E+19	6.8475E+18
Xe-135	8.3911E+00	3.2858E-09	1.4658E+16	4.7460E+18

Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5757E+19	0.0000E+00	
Elemental I (atoms)	7.8985E+19	0.0000E+00	
Organic I (atoms)	2.4428E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.4706E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5117E-08
Total I (Ci)			2.4280E+03

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6027E+20
Elemental I (atoms)	0.0000E+00	1.1268E+21
Organic I (atoms)	0.0000E+00	3.4850E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5364E+20
Elemental I (atoms)	8.9779E+20	9.9762E+19
Organic I (atoms)	2.7767E+19	3.0854E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4968E-03	1.6150E+01	4.9527E-01
Accumulated dose (rem)	8.3009E-03	2.3478E+01	7.2484E-01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3126E-04	3.9838E-01	1.2262E-02
Accumulated dose (rem)	1.3546E-03	1.3078E+00	4.1470E-02

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9342E-07	4.1614E-02	1.2678E-03
Accumulated dose (rem)	2.6142E-05	2.8808E-01	8.9387E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
I-131	2.2836E+02	1.8420E-06	8.4678E+18	1.0101E+20
I-133	2.3973E-07	2.1163E-16	9.5823E+08	1.9213E+19
Xe-133	2.2357E+01	1.1944E-07	5.4082E+17	2.3013E+19

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump
Noble gases (atoms)	5.4082E+17	0.0000E+00
Elemental I (atoms)	8.2138E+18	0.0000E+00
Organic I (atoms)	2.5403E+17	0.0000E+00

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Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         3.5842E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5842E-09
Total I (Ci)                                   2.2836E+02

Suppression Pool to Reactor Building Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.0568E+20
Elemental I (atoms)    0.0000E+00  3.4038E+21
Organic I (atoms)      0.0000E+00  1.0527E+20
Aerosols (kg)          0.0000E+00  0.0000E+00

Reactor Building to Environment Transport Group Inventory:

                         Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9909E+20
Elemental I (atoms)    2.9473E+21  3.2749E+20
Organic I (atoms)      9.1154E+19  1.0128E+19
Aerosols (kg)          0.0000E+00  0.0000E+00

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#################################################################
                            I-131 Summary
#################################################################

             Suppression Pool      Reactor Building         Environment
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.5627E+03             0.0000E+00           0.0000E+00
   0.033       2.7346E+05             0.0000E+00           0.0000E+00
   0.290       2.3794E+06             4.9112E+00           5.4553E-02
   0.417       3.4200E+06             1.0169E+01           1.6462E-01
   0.500       4.0996E+06             1.4597E+01           1.7661E-01
   0.667       6.3742E+06             2.6921E+01           2.1635E-01
   0.920       9.8256E+06             5.5614E+01           3.3606E-01
   1.170       1.3226E+07             9.5390E+01           5.5479E-01
   1.420       1.6622E+07             1.4619E+02           9.0645E-01
   1.670       2.0011E+07             2.0765E+02           1.4228E+00
   1.920       2.3395E+07             2.7945E+02           2.1348E+00
   2.000       2.4476E+07             3.0456E+02           2.4088E+00
   2.400       2.4441E+07             4.2948E+02           4.1334E+00
   2.700       2.4415E+07             5.1915E+02           5.8037E+00
   3.000       2.4388E+07             6.0551E+02           7.7837E+00
   3.300       2.4362E+07             6.8868E+02           1.0062E+01
   3.600       2.4336E+07             7.6878E+02           1.2628E+01
   3.900       2.4309E+07             8.4591E+02           1.5470E+01
   4.000       2.4300E+07             8.7097E+02           1.6477E+01
   4.300       2.4274E+07             9.4431E+02           1.9672E+01
   4.600       2.4248E+07             1.0149E+03           2.3120E+01
   4.900       2.4222E+07             1.0829E+03           2.6813E+01
   5.200       2.4196E+07             1.1484E+03           3.0740E+01
   5.500       2.4169E+07             1.2114E+03           3.4893E+01
   5.800       2.4143E+07             1.2720E+03           3.9263E+01
   6.100       2.4117E+07             1.3304E+03           4.3843E+01
   6.400       2.4091E+07             1.3866E+03           4.8625E+01
   6.700       2.4065E+07             1.4406E+03           5.3601E+01
   7.000       2.4039E+07             1.4927E+03           5.8763E+01
   7.300       2.4013E+07             1.5427E+03           6.4105E+01
   7.600       2.3987E+07             1.5909E+03           6.9619E+01
   7.900       2.3961E+07             1.6372E+03           7.5300E+01
   8.000       2.3952E+07             1.6523E+03           7.7230E+01
   8.300       2.3926E+07             1.6963E+03           8.3123E+01
   8.600       2.3901E+07             1.7386E+03           8.9168E+01
   8.900       2.3875E+07             1.7793E+03           9.5359E+01
```

9.200	2.3849E+07	1.8185E+03	1.0169E+02
9.500	2.3823E+07	1.8561E+03	1.0816E+02
9.800	2.3797E+07	1.8923E+03	1.1475E+02
10.100	2.3772E+07	1.9271E+03	1.2147E+02
10.400	2.3746E+07	1.9605E+03	1.2832E+02
16.000	2.3271E+07	2.3893E+03	2.7285E+02
24.000	2.2609E+07	2.6194E+03	5.0981E+02
48.000	2.0734E+07	2.5673E+03	1.2492E+03
96.000	1.7438E+07	2.1680E+03	2.5788E+03
720.000	1.8368E+06	2.2836E+02	8.8774E+03

Time (hr)	Control Room I-131 (Curies)
0.000	0.0000E+00
0.033	0.0000E+00
0.290	7.6577E-05
0.417	2.0526E-04
0.500	1.4035E-04
0.667	6.5775E-05
0.920	4.3657E-05
1.170	2.9278E-05
1.420	1.9848E-05
1.670	1.3744E-05
1.920	9.8840E-06
2.000	8.9977E-06
2.400	5.4107E-06
2.700	4.0634E-06
3.000	3.3739E-06
3.300	3.0828E-06
3.600	3.0312E-06
3.900	3.1218E-06
4.000	3.1726E-06
4.300	3.3645E-06
4.600	3.5941E-06
4.900	3.8427E-06
5.200	4.0989E-06
5.500	4.3559E-06
5.800	4.6096E-06
6.100	4.8578E-06
6.400	5.0991E-06
6.700	5.3328E-06
7.000	5.5586E-06
7.300	5.7765E-06
7.600	5.9865E-06
7.900	6.1888E-06
8.000	6.2545E-06
8.300	5.5826E-06
8.600	5.2154E-06
8.900	5.0334E-06
9.200	4.9633E-06
9.500	4.9602E-06
9.800	4.9967E-06
10.100	5.0561E-06
10.400	5.1279E-06
16.000	6.3470E-06
24.000	7.0338E-06
48.000	2.8988E-06
96.000	2.4487E-06
720.000	7.3558E-08

```
#####################################################################
                        Cumulative Dose Summary
#####################################################################
```

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)

0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.290	7.3022E-03	2.6404E-04	7.6513E-04	2.7666E-05	4.7796E-03	1.5185E-04
0.417	2.2007E-02	7.9200E-04	2.3059E-03	8.2986E-05	1.9091E-02	6.0611E-04
0.500	2.2564E-02	8.1193E-04	2.4047E-03	8.6521E-05	3.0917E-02	9.8121E-04
0.667	2.2706E-02	8.1699E-04	2.5798E-03	9.2749E-05	4.4570E-02	1.4139E-03
0.920	2.3133E-02	8.3206E-04	3.1055E-03	1.1131E-04	5.5921E-02	1.7732E-03
1.170	2.3911E-02	8.5929E-04	4.0633E-03	1.4484E-04	6.3365E-02	2.0085E-03
1.420	2.5157E-02	9.0264E-04	5.5984E-03	1.9822E-04	6.8364E-02	2.1663E-03
1.670	2.6982E-02	9.6572E-04	7.8459E-03	2.7590E-04	7.1772E-02	2.2737E-03
1.920	2.9491E-02	1.0520E-03	1.0935E-02	3.8212E-04	7.4163E-02	2.3490E-03
2.000	3.0455E-02	1.0850E-03	1.2122E-02	4.2280E-04	7.4781E-02	2.3685E-03
2.400	3.6509E-02	1.2918E-03	1.5329E-02	5.3231E-04	7.7068E-02	2.4404E-03
2.700	4.2349E-02	1.4901E-03	1.8422E-02	6.3737E-04	7.8209E-02	2.4763E-03
3.000	4.9248E-02	1.7234E-03	2.2076E-02	7.6094E-04	7.9105E-02	2.5044E-03
3.300	5.7160E-02	1.9899E-03	2.6267E-02	9.0212E-04	7.9882E-02	2.5289E-03
3.600	6.6041E-02	2.2881E-03	3.0971E-02	1.0600E-03	8.0618E-02	2.5519E-03
3.900	7.5847E-02	2.6163E-03	3.6165E-02	1.2339E-03	8.1357E-02	2.5751E-03
4.000	7.9315E-02	2.7322E-03	3.8002E-02	1.2953E-03	8.1610E-02	2.5831E-03
4.300	9.0293E-02	3.0983E-03	4.3817E-02	1.4892E-03	8.2393E-02	2.6076E-03
4.600	1.0210E-01	3.4913E-03	5.0073E-02	1.6973E-03	8.3225E-02	2.6337E-03
4.900	1.1471E-01	3.9099E-03	5.6752E-02	1.9191E-03	8.4112E-02	2.6615E-03
5.200	1.2808E-01	4.3529E-03	6.3834E-02	2.1537E-03	8.5056E-02	2.6910E-03
5.500	1.4218E-01	4.8192E-03	7.1301E-02	2.4007E-03	8.6058E-02	2.7224E-03
5.800	1.5698E-01	5.3077E-03	7.9138E-02	2.6594E-03	8.7118E-02	2.7556E-03
6.100	1.7244E-01	5.8173E-03	8.7326E-02	2.9294E-03	8.8235E-02	2.7905E-03
6.400	1.8853E-01	6.3471E-03	9.5851E-02	3.2100E-03	8.9405E-02	2.8271E-03
6.700	2.0523E-01	6.8961E-03	1.0470E-01	3.5008E-03	9.0628E-02	2.8653E-03
7.000	2.2251E-01	7.4634E-03	1.1385E-01	3.8013E-03	9.1902E-02	2.9051E-03
7.300	2.4035E-01	8.0482E-03	1.2330E-01	4.1110E-03	9.3224E-02	2.9463E-03
7.600	2.5871E-01	8.6496E-03	1.3302E-01	4.4296E-03	9.4592E-02	2.9890E-03
7.900	2.7758E-01	9.2669E-03	1.4302E-01	4.7565E-03	9.6004E-02	3.0331E-03
8.000	2.8398E-01	9.4761E-03	1.4641E-01	4.8673E-03	9.6484E-02	3.0481E-03
8.300	3.0348E-01	1.0113E-02	1.4989E-01	4.9864E-03	9.7846E-02	3.0906E-03
8.600	3.2344E-01	1.0765E-02	1.5345E-01	5.1080E-03	9.9087E-02	3.1293E-03
8.900	3.4383E-01	1.1430E-02	1.5709E-01	5.2320E-03	1.0026E-01	3.1660E-03
9.200	3.6463E-01	1.2107E-02	1.6081E-01	5.3584E-03	1.0141E-01	3.2017E-03
9.500	3.8583E-01	1.2797E-02	1.6459E-01	5.4870E-03	1.0254E-01	3.2370E-03
9.800	4.0740E-01	1.3499E-02	1.6844E-01	5.6176E-03	1.0368E-01	3.2724E-03
10.100	4.2932E-01	1.4211E-02	1.7236E-01	5.7503E-03	1.0483E-01	3.3081E-03
10.400	4.5159E-01	1.4934E-02	1.7633E-01	5.8849E-03	1.0598E-01	3.3441E-03
16.000	9.1358E-01	2.9841E-02	2.5882E-01	8.6491E-03	1.3013E-01	4.0944E-03
24.000	1.6422E+00	5.3081E-02	3.8892E-01	1.2929E-02	1.6879E-01	5.2909E-03
48.000	3.7702E+00	1.1978E-01	5.8374E-01	1.9102E-02	1.9863E-01	6.2088E-03
96.000	7.3274E+00	2.2956E-01	9.0940E-01	2.9208E-02	2.4647E-01	7.6709E-03
720.000	2.3478E+01	7.2484E-01	1.3078E+00	4.1470E-02	2.8808E-01	8.9387E-03

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
16.0	1.9286E-04	1.8215E-01	5.8102E-03

Attachment 12.3c - RADTRAD Output File "DRE3MS395.o0" (GNF3 Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 15:21:03
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3.psf
 Inventory file       = c:\users\jhead\desktop\dresden_loca\gnf3\dqloca_gnf3.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 c:\users\jhead\desktop\dresden_loca\gnf3\dqloca_gnf3.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
```

```
  0
Compartment 4:
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
```

```
Pathway 3:
Drywell to Intact Control Volume 2
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
```

```
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
```

```
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  0
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
```

```
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
```

```
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 15:21:03
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  6
```

```
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 15:21:03
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        5.298E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.635E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.859E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.648E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        2.136E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.198E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.916E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        6.662E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        7.637E+00

Inventory Power =      3016. MWt
```

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	5.706E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	9.157E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.852E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.508E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.753E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	3.435E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	4.666E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	4.257E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	4.411E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	4.800E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	4.323E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	4.463E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.828E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	5.132E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.931E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	5.119E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.165E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.569E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.536E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.280E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	2.046E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	3.080E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.613E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.040E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.581E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11
Te-127m	4	4.427E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	7.537E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.449E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.437E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.870E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.723E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.976E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.668E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.497E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.349E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10

Xe-133	1	5.393E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.675E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.741E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	2.264E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	6.235E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	5.225E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	5.072E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.106E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.773E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.685E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.776E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.676E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.835E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.607E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.865E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.572E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.699E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.479E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.748E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.884E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.063E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.599E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.817E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
       3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00
     Location Low Population Zone     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.6300E-05
       2.0000E+00          1.0900E-05
       8.0000E+00          7.0200E-06
       2.4000E+01          2.7000E-06
       9.6000E+01          6.8600E-07
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       8.0000E+00                 1.8000E-04
       2.4000E+01                 2.3000E-04
       7.2000E+02                 0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
```

```
 Time (hr)         Breathing Rate (m^3 * sec^-1)
  0.0000E+00                 3.5000E-04
  7.2000E+02                 0.0000E+00

Location Occupancy Factor Data
 Time (hr)         Occupancy Factor
  0.0000E+00            1.0000E+00
  2.4000E+01            6.0000E-01
  9.6000E+01            4.0000E-01
  7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
Time            Time step
 0.0000E+00       1.0000E-01
 1.0000E+00       1.0000E-02
 2.0000E+00       5.0000E-01
 8.0000E+00       1.0000E+00
 2.4000E+01       2.0000E+00
 9.6000E+01       5.0000E+00
 7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 15:21:03
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    1.1482E+23  0.0000E+00
Elemental I (atoms)    6.3486E+20  0.0000E+00
Organic I (atoms)      1.9635E+19  0.0000E+00
Aerosols (kg)          7.6646E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4065E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8012E-04
Total I (Ci)                                   2.3572E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5541E+21
Elemental I (atoms)    0.0000E+00  1.4132E+19
Organic I (atoms)      0.0000E+00  4.3708E+17
Aerosols (kg)          0.0000E+00  1.7048E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5517E+19
Elemental I (atoms)    0.0000E+00  3.0718E+17
Organic I (atoms)      0.0000E+00  9.5006E+15
Aerosols (kg)          0.0000E+00  3.7057E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00
Elemental I (atoms)	0.0000E+00	0.0000E+00
Organic I (atoms)	0.0000E+00	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5148E-04	2.2928E-02	1.2017E-03
Accumulated dose (rem)	2.5148E-04	2.2928E-02	1.2017E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6351E-05	2.4024E-03	1.2591E-04
Accumulated dose (rem)	2.6351E-05	2.4024E-03	1.2591E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.0712E-06	2.1347E-02	8.9406E-04
Accumulated dose (rem)	9.0712E-06	2.1347E-02	8.9406E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.6029E+04	6.6343E-02	4.7003E+23	3.9911E+17
Kr-85m	4.0707E+05	4.9465E-05	3.5045E+20	6.3045E+18
Kr-87	7.7143E+05	2.7235E-05	1.8852E+20	1.2255E+19
Kr-88	1.0984E+06	8.7601E-05	5.9948E+20	1.7111E+19
Rb-86	3.0797E+03	3.7849E-05	2.6504E+20	4.7227E+16
I-131	1.2414E+06	1.0014E-02	4.6033E+22	1.9040E+19
I-132	1.7535E+06	1.6988E-04	7.7501E+20	2.7293E+19
I-133	2.5712E+06	2.2698E-03	1.0277E+22	3.9510E+19
I-134	2.5977E+06	9.7377E-05	4.3763E+20	4.1936E+19
I-135	2.3977E+06	6.8275E-04	3.0457E+21	3.7015E+19
Xe-133	2.4601E+06	1.3143E-02	5.9510E+22	3.7715E+19

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Xe-135                 1.2308E+06  4.8198E-04  2.1500E+21  1.8733E+19
Cs-134                 3.5311E+05  2.7292E-01  1.2265E+24  5.4145E+18
Cs-136                 1.0324E+05  1.4086E-03  6.2373E+21  1.5832E+18
Cs-137                 2.8442E+05  3.2698E+00  1.4373E+25  4.3611E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    5.3283E+23  0.0000E+00
Elemental I (atoms)    2.9376E+21  0.0000E+00
Organic I (atoms)      9.0852E+19  0.0000E+00
Aerosols (kg)          3.5568E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.5122E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.3109E-04
Total I (Ci)                                   1.0562E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6487E+19
Elemental I (atoms)    0.0000E+00  9.1074E+16
Organic I (atoms)      0.0000E+00  2.8167E+15
Aerosols (kg)          0.0000E+00  1.1005E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6487E+19
Elemental I (atoms)    0.0000E+00  9.1074E+16
Organic I (atoms)      0.0000E+00  2.8167E+15
Aerosols (kg)          0.0000E+00  1.1005E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.2296E+18
Elemental I (atoms)    0.0000E+00  4.5461E+16
Organic I (atoms)      0.0000E+00  1.4060E+15
Aerosols (kg)          0.0000E+00  5.4933E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0743E+22
Elemental I (atoms)    0.0000E+00  3.3557E+20
Organic I (atoms)      0.0000E+00  1.0378E+19
Aerosols (kg)          0.0000E+00  4.0546E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3033E+21
Elemental I (atoms)    0.0000E+00  3.4812E+19
Organic I (atoms)      0.0000E+00  1.0767E+18
Aerosols (kg)          0.0000E+00  4.2076E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  2.2992E-02  5.8603E-08  4.1520E+17  8.5071E+08
Kr-85m                 3.6024E-01  4.3774E-11  3.1013E+14  1.3329E+10
Kr-87                  6.8586E-01  2.4213E-11  1.6760E+14  2.5377E+10
Kr-88                  9.7309E-01  7.7603E-11  5.3107E+14  3.6004E+10
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Rb-86	3.1026E-04	3.8131E-12	2.6701E+13	1.1480E+07
I-131	1.6941E-01	1.3665E-09	6.2817E+15	6.2680E+09
I-132	2.3794E-01	2.3052E-11	1.0517E+14	8.8039E+09
I-133	3.5100E-01	3.0985E-10	1.4030E+15	1.2987E+10
I-134	3.5791E-01	1.3417E-11	6.0296E+13	1.3243E+10
I-135	3.2760E-01	9.3284E-11	4.1612E+14	1.2121E+10
Xe-133	2.1724E+00	1.1606E-08	5.2551E+16	8.0379E+10
Xe-135	1.0786E+00	4.2238E-10	1.8841E+15	3.9909E+10
Cs-134	3.5574E-02	2.7495E-08	1.2357E+17	1.3162E+09
Cs-136	1.0401E-02	1.4191E-10	6.2839E+14	3.8483E+08
Cs-137	2.8653E-02	3.2942E-07	1.4480E+18	1.0602E+09

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	4.7064E+17	7.8425E+14
Elemental I (atoms)	2.3883E+15	3.9796E+12
Organic I (atoms)	8.0265E+13	1.3375E+11
Aerosols (kg)	3.5833E-07	5.9709E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3909E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.0517E-01
Total I (Ci)	1.4439E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2427E+17
Elemental I (atoms)	1.6026E+14	2.1828E+15
Organic I (atoms)	0.0000E+00	7.2465E+13
Aerosols (kg)	2.4871E-06	3.4495E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1600E+16
Elemental I (atoms)	3.2957E+13	1.8720E+14
Organic I (atoms)	0.0000E+00	7.1044E+12
Aerosols (kg)	5.1793E-08	1.2771E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0506E+15
Elemental I (atoms)	4.0125E+12	2.2791E+13
Organic I (atoms)	0.0000E+00	8.6252E+11
Aerosols (kg)	3.2987E-09	4.0646E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3531E+14
Elemental I (atoms)	0.0000E+00	3.2286E+12
Organic I (atoms)	0.0000E+00	1.0851E+11
Aerosols (kg)	0.0000E+00	4.8366E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1551E+15
Elemental I (atoms)	0.0000E+00	5.8703E+12
Organic I (atoms)	0.0000E+00	1.9729E+11

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Aerosols (kg)          0.0000E+00  8.7938E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.7712E+14  0.0000E+00
Elemental I (atoms)    1.4107E+12  0.0000E+00
Organic I (atoms)      4.7325E+10  0.0000E+00
Aerosols (kg)          2.1304E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4896E-03  3.4518E-01  1.9643E-02
Accumulated dose (rem)  5.7410E-03  3.6810E-01  2.0844E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.7520E-04  3.6168E-02  2.0582E-03
Accumulated dose (rem)  6.0155E-04  3.8570E-02  2.1841E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6080E-04  8.4189E-01  3.5073E-02
Accumulated dose (rem)  4.6987E-04  8.6324E-01  3.5967E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  6.8444E+04  1.7445E-01  1.2360E+24  2.7873E+18
Kr-85m                 1.0166E+06  1.2353E-04  8.7522E+20  4.2590E+19
Kr-87                  1.6915E+06  5.9718E-05  4.1337E+20  7.6245E+19
Kr-88                  2.6628E+06  2.1235E-04  1.4532E+21  1.1341E+20
Rb-86                  1.3322E+03  1.6372E-05  1.1465E+20  1.1347E+17
I-131                  5.4081E+05  4.3623E-03  2.0054E+22  4.5869E+19
I-132                  7.5702E+05  7.3339E-05  3.3459E+20  6.5396E+19
I-133                  1.1089E+06  9.7888E-04  4.4323E+21  9.4819E+19
I-134                  8.7039E+05  3.2627E-05  1.4663E+20  9.1817E+19
I-135                  1.0097E+06  2.8751E-04  1.2826E+21  8.8030E+19
Xe-133                 6.4625E+06  3.4525E-02  1.5633E+23  2.6330E+20
Xe-135                 3.2142E+06  1.2586E-03  5.6146E+21  1.3120E+20
Cs-134                 1.5282E+05  1.1812E-01  5.3083E+23  1.3012E+19
Cs-136                 4.4647E+04  6.0918E-04  2.6975E+21  3.8037E+18
Cs-137                 1.2309E+05  1.4152E+00  6.2207E+24  1.0481E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.4007E+24  0.0000E+00
Elemental I (atoms)    1.2635E+21  7.7247E+21
Organic I (atoms)      2.3729E+20  0.0000E+00
Aerosols (kg)          1.5393E+00  9.3696E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8252E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5811E-04
Total I (Ci)                                   4.2868E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3944E+20
Elemental I (atoms)    0.0000E+00  2.8460E+17
Organic I (atoms)      0.0000E+00  2.3725E+16
Aerosols (kg)          0.0000E+00  3.4478E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3944E+20
Elemental I (atoms)	0.0000E+00	2.8460E+17
Organic I (atoms)	0.0000E+00	2.3725E+16
Aerosols (kg)	0.0000E+00	3.4478E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9602E+19
Elemental I (atoms)	0.0000E+00	1.4206E+17
Organic I (atoms)	0.0000E+00	1.1843E+16
Aerosols (kg)	0.0000E+00	1.7210E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9469E+23
Elemental I (atoms)	0.0000E+00	1.0186E+21
Organic I (atoms)	0.0000E+00	8.4173E+19
Aerosols (kg)	0.0000E+00	1.2339E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3458E+23
Elemental I (atoms)	0.0000E+00	3.8654E+20
Organic I (atoms)	0.0000E+00	2.2878E+19
Aerosols (kg)	0.0000E+00	4.6915E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	7.1835E-01	1.8310E-06	1.2972E+19	2.6579E+10
Kr-85m	1.0801E+01	1.3124E-09	9.2985E+15	3.9963E+11
Kr-87	1.8551E+01	6.5493E-10	4.5334E+15	6.8640E+11
Kr-88	2.8493E+01	2.2723E-09	1.5550E+16	1.0542E+12
Rb-86	4.7890E-03	5.8856E-11	4.1214E+14	1.7719E+08
I-131	2.7282E+00	2.2006E-08	1.0116E+17	1.0094E+11
I-132	3.6374E+00	3.5238E-10	1.6077E+15	1.3458E+11
I-133	5.6129E+00	4.9549E-09	2.2435E+16	2.0768E+11
I-134	4.7998E+00	1.7993E-10	8.0861E+14	1.7759E+11
I-135	5.1509E+00	1.4667E-09	6.5428E+15	1.9058E+11
Xe-133	6.7833E+01	3.6239E-07	1.6409E+18	2.5098E+12
Xe-135	3.3689E+01	1.3192E-08	5.8848E+16	1.2465E+12
Cs-134	5.4928E-01	4.2454E-07	1.9079E+18	2.0323E+10
Cs-136	1.6051E-01	2.1901E-09	9.6977E+15	5.9390E+09
Cs-137	4.4243E-01	5.0864E-06	2.2359E+19	1.6370E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.4701E+19	8.1673E+15
Elemental I (atoms)	4.0994E+16	2.2775E+13
Organic I (atoms)	2.4935E+15	1.3853E+12
Aerosols (kg)	5.5327E-06	3.0737E-09

Dose Effective (Ci) I-131 (Thyroid)	3.8381E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.8701E+00
Total I (Ci)	2.1929E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1191E+19
Elemental I (atoms)	2.2653E+15	3.0854E+16
Organic I (atoms)	0.0000E+00	1.9021E+15
Aerosols (kg)	3.5310E-05	4.8973E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1022E+18
Elemental I (atoms)	1.5919E+15	9.0421E+15
Organic I (atoms)	0.0000E+00	5.2703E+14
Aerosols (kg)	2.5146E-06	6.2002E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1045E+17
Elemental I (atoms)	2.1513E+14	1.2219E+15
Organic I (atoms)	0.0000E+00	6.9727E+13
Aerosols (kg)	1.7778E-07	2.1905E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9846E+16
Elemental I (atoms)	0.0000E+00	5.5450E+13
Organic I (atoms)	0.0000E+00	3.3728E+12
Aerosols (kg)	0.0000E+00	7.4679E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6083E+16
Elemental I (atoms)	0.0000E+00	1.0082E+14
Organic I (atoms)	0.0000E+00	6.1324E+12
Aerosols (kg)	0.0000E+00	1.3578E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	2.1276E+16	0.0000E+00
Elemental I (atoms)	6.9193E+13	0.0000E+00
Organic I (atoms)	3.6145E+12	0.0000E+00
Aerosols (kg)	9.5609E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3897E-03	3.0362E-01	2.0156E-02
Accumulated dose (rem)	1.3131E-02	6.7172E-01	4.1001E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.7430E-04	3.1814E-02	2.1120E-03
Accumulated dose (rem)	1.3758E-03	7.0384E-02	4.2961E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.5154E-04	1.0100E+00	4.2452E-02
Accumulated dose (rem)	1.2214E-03	1.8732E+00	7.8419E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	2.2617E+05	5.7647E-01	4.0842E+24	7.0106E+18
Kr-85m	3.2738E+06	3.9781E-04	2.8184E+21	1.0446E+20
Kr-87	5.1041E+06	1.8019E-04	1.2473E+21	1.7568E+20
Kr-88	8.4481E+06	6.7373E-04	4.6106E+21	2.7417E+20
Rb-86	1.7253E+03	2.1204E-05	1.4848E+20	1.5101E+17
Sr-89	7.9799E+04	2.7467E-03	1.8586E+22	1.6191E+18
Sr-90	1.0844E+04	7.9495E-02	5.3192E+23	2.2000E+17
Sr-91	9.4235E+04	2.5996E-05	1.7203E+20	1.9231E+18
Sr-92	8.6440E+04	6.8770E-06	4.5015E+19	1.7902E+18
Y-90	1.2272E+02	2.2556E-07	1.5093E+18	2.2923E+15
Y-91	1.0063E+03	4.1035E-05	2.7156E+20	2.0385E+16
Y-92	2.6572E+03	2.7614E-07	1.8076E+18	2.5221E+16
Y-93	1.0718E+03	3.2126E-07	2.0803E+18	2.1866E+16
Zr-95	1.1923E+03	5.5501E-05	3.5182E+20	2.4191E+16
Zr-97	1.1150E+03	5.8328E-07	3.6213E+18	2.2697E+16
Nb-95	1.1896E+03	3.0423E-05	1.9286E+20	2.4135E+16
Mo-99	1.4900E+04	3.1066E-05	1.8897E+20	3.0255E+17
Tc-99m	1.3269E+04	2.5235E-06	1.5350E+19	2.6791E+17
Ru-103	1.3171E+04	4.0809E-04	2.3860E+21	2.6723E+17
Ru-105	8.5865E+03	1.2774E-06	7.3262E+18	1.7641E+17
Ru-106	5.9433E+03	1.7765E-03	1.0093E+22	1.2058E+17
Rh-105	8.9488E+03	1.0602E-05	6.0807E+19	1.8142E+17
Sb-127	1.5106E+04	5.6565E-05	2.6822E+20	3.0666E+17
Sb-129	4.1973E+04	7.4641E-06	3.4845E+19	8.6263E+17
Te-127	1.4995E+04	5.6819E-06	2.6942E+19	3.0327E+17
Te-127m	2.5721E+03	2.7268E-04	1.2930E+21	5.2184E+16
Te-129	4.2698E+04	2.0388E-06	9.5179E+18	8.4999E+17
Te-129m	8.4194E+03	2.7948E-04	1.3047E+21	1.7081E+17
Te-131m	3.1106E+04	3.9009E-05	1.7933E+20	6.3227E+17
Te-132	2.2352E+05	7.3625E-04	3.3590E+21	4.5382E+18
I-131	8.5903E+05	6.9291E-03	3.1853E+22	6.4319E+19
I-132	1.2168E+06	1.1788E-04	5.3779E+20	9.1696E+19
I-133	1.7524E+06	1.5470E-03	7.0047E+21	1.3255E+20
I-134	1.2124E+06	4.5448E-05	2.0425E+20	1.1962E+20
I-135	1.5768E+06	4.4899E-04	2.0029E+21	1.2218E+20
Xe-133	2.1356E+07	1.1409E-01	5.1661E+23	6.6219E+20
Xe-135	1.0719E+07	4.1972E-03	1.8723E+22	3.3165E+20
Cs-134	1.9797E+05	1.5301E-01	6.8765E+23	1.7318E+19
Cs-136	5.7816E+04	7.8886E-04	3.4931E+21	5.0616E+18
Cs-137	1.5946E+05	1.8332E+00	8.0584E+24	1.3949E+19
Ba-139	8.6839E+04	5.3090E-06	2.3001E+19	1.8349E+18
Ba-140	1.1769E+05	1.6077E-03	6.9154E+21	2.3883E+18
La-140	1.3795E+03	2.4819E-06	1.0676E+19	2.4582E+16
La-141	9.8618E+02	1.7438E-07	7.4478E+17	2.0294E+16
La-142	8.0679E+02	5.6360E-08	2.3902E+17	1.6974E+16
Ce-141	2.7746E+03	9.7378E-05	4.1590E+20	5.6294E+16
Ce-143	2.6790E+03	4.0341E-06	1.6989E+19	5.4444E+16
Ce-144	2.2280E+03	6.9854E-04	2.9213E+21	4.5203E+16
Pr-143	1.0710E+03	1.5905E-05	6.6979E+19	2.1721E+16
Nd-147	4.3266E+02	5.3482E-06	2.1910E+19	8.7800E+15
Np-239	3.2110E+04	1.3841E-04	3.4875E+20	6.5210E+17
Pu-238	9.8712E+00	5.7660E-04	1.4590E+21	2.0027E+14
Pu-239	8.5937E-01	1.3826E-02	3.4837E+22	1.7435E+13
Pu-240	1.5966E+00	7.0067E-03	1.7581E+22	3.2392E+13
Pu-241	3.4186E+02	3.3186E-03	8.2926E+21	6.9358E+15
Am-241	2.4706E-01	7.1984E-05	1.7987E+20	5.0124E+12
Cm-242	6.0393E+01	1.8222E-05	4.5345E+19	1.2253E+15

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Cm-244                 4.2227E+00  5.2195E-05  1.2882E+20  8.5672E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    4.6282E+24  0.0000E+00
Elemental I (atoms)    2.0032E+21  1.2222E+22
Organic I (atoms)      3.6193E+20  0.0000E+00
Aerosols (kg)          2.1092E+00  1.4242E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.4788E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.6622E-04
Total I (Ci)                                   6.6174E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3120E+20
Elemental I (atoms)    0.0000E+00  3.9727E+17
Organic I (atoms)      0.0000E+00  4.2591E+16
Aerosols (kg)          0.0000E+00  4.6684E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3120E+20
Elemental I (atoms)    0.0000E+00  3.9727E+17
Organic I (atoms)      0.0000E+00  4.2591E+16
Aerosols (kg)          0.0000E+00  4.6684E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6532E+20
Elemental I (atoms)    0.0000E+00  1.9830E+17
Organic I (atoms)      0.0000E+00  2.1260E+16
Aerosols (kg)          0.0000E+00  2.3303E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1715E+24
Elemental I (atoms)    0.0000E+00  1.4163E+21
Organic I (atoms)      0.0000E+00  1.5076E+20
Aerosols (kg)          0.0000E+00  1.6647E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2083E+23
Elemental I (atoms)    0.0000E+00  6.2100E+20
Organic I (atoms)      0.0000E+00  4.9445E+19
Aerosols (kg)          0.0000E+00  7.4917E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.8685E+00  4.7625E-06  3.3742E+19  6.9135E+10
Kr-85m                 2.7534E+01  3.3458E-09  2.3704E+16  1.0188E+12
Kr-87                  4.4980E+01  1.5880E-09  1.0992E+16  1.6643E+12
Kr-88                  7.1801E+01  5.7261E-09  3.9186E+16  2.6566E+12
Rb-86                  8.5189E-03  1.0470E-10  7.3314E+14  3.1520E+08
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Sr-89	1.4231E-02	4.8984E-10	3.3145E+15	5.2655E+08
Sr-90	1.9338E-03	1.4177E-08	9.4860E+16	7.1551E+07
Sr-91	1.6827E-02	4.6419E-12	3.0719E+13	6.2259E+08
Sr-92	1.5484E-02	1.2319E-12	8.0638E+12	5.7292E+08
Y-90	2.2806E-05	4.1917E-14	2.8048E+11	8.4381E+05
Y-91	1.7962E-04	7.3243E-12	4.8470E+13	6.6459E+06
Y-92	6.1044E-04	6.3440E-14	4.1527E+11	2.2586E+07
Y-93	1.9138E-04	5.7361E-14	3.7144E+11	7.0809E+06
Zr-95	2.1263E-04	9.8977E-12	6.2743E+13	7.8674E+06
Zr-97	1.9899E-04	1.0409E-13	6.4626E+11	7.3628E+06
Nb-95	2.1215E-04	5.4255E-12	3.4393E+13	7.8497E+06
Mo-99	2.6576E-03	5.5411E-12	3.3706E+13	9.8331E+07
Tc-99m	2.3664E-03	4.5003E-13	2.7375E+12	8.7555E+07
Ru-103	2.3488E-03	7.2777E-11	4.2551E+14	8.6905E+07
Ru-105	1.5355E-03	2.2842E-13	1.3101E+12	5.6812E+07
Ru-106	1.0599E-03	3.1681E-10	1.7999E+15	3.9216E+07
Rh-105	1.5959E-03	1.8907E-12	1.0844E+13	5.9048E+07
Sb-127	2.6942E-03	1.0089E-11	4.7839E+13	9.9686E+07
Sb-129	7.5063E-03	1.3348E-12	6.2314E+12	2.7773E+08
Te-127	2.6741E-03	1.0133E-12	4.8048E+12	9.8943E+07
Te-127m	4.5869E-04	4.8629E-11	2.3059E+14	1.6972E+07
Te-129	7.6220E-03	3.6395E-13	1.6990E+12	2.8201E+08
Te-129m	1.5015E-03	4.9841E-11	2.3267E+14	5.5554E+07
Te-131m	5.5495E-03	6.9594E-12	3.1993E+13	2.0533E+08
Te-132	3.9868E-02	1.3132E-10	5.9911E+14	1.4751E+09
I-131	4.9805E+00	4.0173E-08	1.8468E+17	1.8428E+11
I-132	6.5192E+00	6.3157E-10	2.8814E+15	2.4121E+11
I-133	1.0214E+01	9.0161E-09	4.0824E+16	3.7790E+11
I-134	8.0748E+00	3.0269E-10	1.3603E+15	2.9877E+11
I-135	9.3015E+00	2.6486E-09	1.1815E+16	3.4416E+11
Xe-133	1.7638E+02	9.4227E-07	4.2665E+18	6.5259E+12
Xe-135	8.7432E+01	3.4237E-08	1.5273E+17	3.2350E+12
Cs-134	9.7725E-01	7.5532E-07	3.3945E+18	3.6158E+10
Cs-136	2.8551E-01	3.8956E-09	1.7250E+16	1.0564E+10
Cs-137	7.8714E-01	9.0495E-06	3.9779E+19	2.9124E+10
Ba-139	1.5624E-02	9.5520E-13	4.1384E+12	5.7809E+08
Ba-140	2.0990E-02	2.8671E-10	1.2333E+15	7.7662E+08
La-140	2.6190E-04	4.7119E-13	2.0268E+12	9.6903E+06
La-141	1.7641E-04	3.1194E-14	1.3323E+11	6.5273E+06
La-142	1.4502E-04	1.0131E-14	4.2964E+10	5.3658E+06
Ce-141	4.9480E-04	1.7365E-11	7.4168E+13	1.8308E+07
Ce-143	4.7793E-04	7.1968E-13	3.0308E+12	1.7683E+07
Ce-144	3.9733E-04	1.2457E-10	5.2097E+14	1.4701E+07
Pr-143	1.9102E-04	2.8368E-12	1.1946E+13	7.0679E+06
Nd-147	7.7163E-05	9.5382E-13	3.9075E+12	2.8550E+06
Np-239	5.7275E-03	2.4688E-11	6.2208E+13	2.1192E+08
Pu-238	1.7604E-06	1.0283E-10	2.6019E+14	6.5134E+04
Pu-239	1.5325E-07	2.4656E-09	6.2127E+15	5.6704E+03
Pu-240	2.8473E-07	1.2495E-09	3.1353E+15	1.0535E+04
Pu-241	6.0965E-05	5.9182E-10	1.4788E+15	2.2557E+06
Am-241	4.4060E-08	1.2837E-11	3.2078E+13	1.6302E+03
Cm-242	1.0770E-05	3.2496E-12	8.0867E+12	3.9850E+05
Cm-244	7.5305E-07	9.3081E-12	2.2973E+13	2.7863E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.8235E+19	1.5930E+16
Elemental I (atoms)	7.6074E+16	3.1696E+13
Organic I (atoms)	6.0505E+15	2.5209E+12
Aerosols (kg)	9.8639E-06	4.1098E-09

Dose Effective (Ci) I-131 (Thyroid)	6.9967E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.8571E+00
Total I (Ci)	3.9089E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7844E+19
Elemental I (atoms)    3.9259E+15  5.3470E+16
Organic I (atoms)      0.0000E+00  4.3465E+15
Aerosols (kg)          6.0922E-05  8.4495E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1450E+18
Elemental I (atoms)    3.5083E+15  1.9927E+16
Organic I (atoms)      0.0000E+00  1.5082E+15
Aerosols (kg)          5.5449E-06  1.3672E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2550E+18
Elemental I (atoms)    4.9944E+14  2.8368E+15
Organic I (atoms)      0.0000E+00  2.0758E+14
Aerosols (kg)          4.1312E-07  5.0904E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1615E+16
Elemental I (atoms)    0.0000E+00  1.0288E+14
Organic I (atoms)      0.0000E+00  8.1826E+12
Aerosols (kg)          0.0000E+00  1.3314E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3845E+16
Elemental I (atoms)    0.0000E+00  1.8706E+14
Organic I (atoms)      0.0000E+00  1.4877E+13
Aerosols (kg)          0.0000E+00  2.4208E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    6.3395E+16  0.0000E+00
Elemental I (atoms)    1.5367E+14  0.0000E+00
Organic I (atoms)      1.0466E+13  0.0000E+00
Aerosols (kg)          2.0452E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.2965E-01  6.6452E+00  9.5739E-01
Accumulated dose (rem)  6.4278E-01  7.3169E+00  9.9839E-01

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.5976E-02  6.9629E-01  1.0032E-01
Accumulated dose (rem)  6.7351E-02  7.6667E-01  1.0461E-01

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4193E-02	7.3227E+00	3.8383E-01
Accumulated dose (rem)	5.5414E-02	9.1959E+00	4.6225E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	1.1640E+06	2.9669E+00	2.1020E+25	1.3581E+20
Kr-85m	1.3708E+07	1.6657E-03	1.1801E+22	1.7538E+21
Kr-87	1.2700E+07	4.4837E-04	3.1036E+21	2.0901E+21
Kr-88	3.1401E+07	2.5043E-03	1.7137E+22	4.2451E+21
Rb-86	1.7996E+03	2.2117E-05	1.5488E+20	4.6806E+17
Sr-89	9.1362E+04	3.1447E-03	2.1279E+22	1.7492E+19
Sr-90	1.2424E+04	9.1084E-02	6.0946E+23	2.3778E+18
Sr-91	9.7963E+04	2.7024E-05	1.7884E+20	1.9782E+19
Sr-92	7.0422E+04	5.6027E-06	3.6674E+19	1.6336E+19
Y-90	1.4147E+02	2.6002E-07	1.7399E+18	2.6130E+16
Y-91	1.1525E+03	4.6996E-05	3.1101E+20	2.2048E+17
Y-92	2.5264E+03	2.6256E-07	1.7187E+18	4.2151E+17
Y-93	1.1207E+03	3.3591E-07	2.1752E+18	2.2558E+17
Zr-95	1.3653E+03	6.3553E-05	4.0287E+20	2.6137E+17
Zr-97	1.2096E+03	6.3275E-07	3.9284E+18	2.3855E+17
Nb-95	1.3631E+03	3.4858E-05	2.2097E+20	2.6086E+17
Mo-99	1.6834E+04	3.5099E-05	2.1351E+20	3.2465E+18
Tc-99m	1.5166E+04	2.8842E-06	1.7545E+19	2.9010E+18
Ru-103	1.5076E+04	4.6712E-04	2.7311E+21	2.8867E+18
Ru-105	7.9895E+03	1.1886E-06	6.8168E+18	1.7171E+18
Ru-106	6.8090E+03	2.0352E-03	1.1563E+22	1.3032E+18
Rh-105	1.0218E+04	1.2106E-05	6.9431E+19	1.9592E+18
Sb-127	1.7136E+04	6.4166E-05	3.0426E+20	3.2974E+18
Sb-129	3.8830E+04	6.9050E-06	3.2235E+19	8.3727E+18
Te-127	1.7167E+04	6.5047E-06	3.0844E+19	3.2828E+18
Te-127m	2.9471E+03	3.1244E-04	1.4815E+21	5.6400E+17
Te-129	4.3722E+04	2.0877E-06	9.7461E+18	8.8586E+18
Te-129m	9.6466E+03	3.2022E-04	1.4949E+21	1.8462E+18
Te-131m	3.4559E+04	4.3340E-05	1.9923E+20	6.7265E+18
Te-132	2.5310E+05	8.3367E-04	3.8034E+21	4.8751E+19
I-131	9.2672E+05	7.4750E-03	3.4363E+22	2.2593E+20
I-132	1.3099E+06	1.2690E-04	5.7895E+20	3.2121E+20
I-133	1.8157E+06	1.6028E-03	7.2576E+21	4.5561E+20
I-134	4.5763E+05	1.7155E-05	7.7096E+19	2.6022E+20
I-135	1.4851E+06	4.2288E-04	1.8864E+21	3.9941E+20
Xe-133	1.0957E+08	5.8535E-01	2.6504E+24	1.2802E+22
Xe-135	5.4399E+07	2.1302E-02	9.5023E+22	6.4008E+21
Cs-134	2.0692E+05	1.5993E-01	7.1873E+23	5.3736E+19
Cs-136	6.0255E+04	8.2214E-04	3.6405E+21	1.5682E+19
Cs-137	1.6667E+05	1.9162E+00	8.4231E+24	4.3283E+19
Ba-139	5.0888E+04	3.1111E-06	1.3479E+19	1.4377E+19
Ba-140	1.3445E+05	1.8365E-03	7.8996E+21	2.5772E+19
La-140	1.5952E+03	2.8699E-06	1.2345E+19	2.8904E+17
La-141	8.9316E+02	1.5793E-07	6.7453E+17	1.9493E+17
La-142	5.0760E+02	3.5459E-08	1.5038E+17	1.3731E+17
Ce-141	3.1783E+03	1.1155E-04	4.7642E+20	6.0835E+17
Ce-143	2.9847E+03	4.4945E-06	1.8928E+19	5.8005E+17
Ce-144	2.5524E+03	8.0026E-04	3.3467E+21	4.8851E+17
Pr-143	1.2271E+03	1.8223E-05	7.6742E+19	2.3481E+17
Nd-147	4.9400E+02	6.1064E-06	2.5016E+19	9.4722E+16
Np-239	3.6194E+04	1.5601E-04	3.9311E+20	6.9890E+18
Pu-238	1.1310E+01	6.6067E-04	1.6717E+21	2.1645E+15
Pu-239	9.8480E-01	1.5844E-02	3.9922E+22	1.8845E+14
Pu-240	1.8293E+00	8.0281E-03	2.0144E+22	3.5009E+14
Pu-241	3.9169E+02	3.8023E-03	9.5013E+21	7.4961E+16
Am-241	2.8311E-01	8.2489E-05	2.0612E+20	5.4177E+13
Cm-242	6.9181E+01	2.0874E-05	5.1943E+19	1.3241E+16
Cm-244	4.8382E+00	5.9803E-05	1.4760E+20	9.2593E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.3797E+25	0.0000E+00	
Elemental I (atoms)	2.0886E+21	5.3875E+22	
Organic I (atoms)	1.1648E+21	0.0000E+00	
Aerosols (kg)	2.2159E+00	5.8088E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7590E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9129E-04
Total I (Ci)			5.9951E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6445E+21
Elemental I (atoms)	0.0000E+00	1.4408E+18
Organic I (atoms)	0.0000E+00	4.3150E+17
Aerosols (kg)	0.0000E+00	1.5653E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6445E+21
Elemental I (atoms)	0.0000E+00	1.4408E+18
Organic I (atoms)	0.0000E+00	4.3150E+17
Aerosols (kg)	0.0000E+00	1.5653E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8158E+21
Elemental I (atoms)	0.0000E+00	7.1918E+17
Organic I (atoms)	0.0000E+00	2.1539E+17
Aerosols (kg)	0.0000E+00	7.8134E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6983E+25
Elemental I (atoms)	0.0000E+00	5.0993E+21
Organic I (atoms)	0.0000E+00	1.5234E+21
Aerosols (kg)	0.0000E+00	5.5416E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5606E+25
Elemental I (atoms)	0.0000E+00	3.7318E+21
Organic I (atoms)	0.0000E+00	9.3498E+20
Aerosols (kg)	0.0000E+00	4.1212E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.5021E+02	3.8287E-04	2.7126E+21	5.5579E+12
Kr-85m	1.8874E+03	2.2934E-07	1.6248E+18	6.9832E+13
Kr-87	2.0835E+03	7.3557E-08	5.0916E+17	7.7091E+13
Kr-88	4.4934E+03	3.5835E-07	2.4523E+18	1.6626E+14
Rb-86	7.4412E-02	9.1451E-10	6.4039E+15	2.7532E+09
Sr-89	2.1181E+00	7.2906E-08	4.9331E+17	7.8369E+10

Sr-90	2.8796E-01	2.1110E-06	1.4126E+19	1.0655E+10
Sr-91	2.3517E+00	6.4874E-10	4.2932E+15	8.7012E+10
Sr-92	1.8510E+00	1.4726E-10	9.6393E+14	6.8485E+10
Y-90	4.6951E-03	8.6296E-12	5.7743E+13	1.7372E+08
Y-91	2.6945E-02	1.0987E-09	7.2711E+15	9.9698E+08
Y-92	2.2917E-01	2.3816E-11	1.5589E+14	8.4791E+09
Y-93	2.6847E-02	8.0468E-12	5.2107E+13	9.9333E+08
Zr-95	3.1650E-02	1.4733E-09	9.3393E+15	1.1711E+09
Zr-97	2.8592E-02	1.4957E-11	9.2857E+13	1.0579E+09
Nb-95	3.1592E-02	8.0791E-10	5.1214E+15	1.1689E+09
Mo-99	3.9213E-01	8.1759E-10	4.9734E+15	1.4509E+10
Tc-99m	3.5188E-01	6.6921E-11	4.0708E+14	1.3020E+10
Ru-103	3.4953E-01	1.0830E-08	6.3321E+16	1.2933E+10
Ru-105	1.9977E-01	2.9719E-11	1.7045E+14	7.3916E+09
Ru-106	1.5782E-01	4.7172E-08	2.6800E+17	5.8393E+09
Rh-105	2.3721E-01	2.8103E-10	1.6118E+15	8.7766E+09
Sb-127	3.9858E-01	1.4925E-09	7.0772E+15	1.4747E+10
Sb-129	9.7301E-01	1.7303E-10	8.0775E+14	3.6001E+10
Te-127	3.9802E-01	1.5082E-10	7.1515E+14	1.4727E+10
Te-127m	6.8305E-02	7.2414E-09	3.4337E+16	2.5273E+09
Te-129	1.0608E+00	5.0651E-11	2.3646E+14	3.9248E+10
Te-129m	2.2359E-01	7.4219E-09	3.4648E+16	8.2727E+09
Te-131m	8.0989E-01	1.0157E-09	4.6690E+15	2.9966E+10
Te-132	5.8909E+00	1.9404E-08	8.8526E+16	2.1796E+11
I-131	5.4067E+01	4.3611E-07	2.0048E+18	2.0005E+12
I-132	6.5298E+01	6.3260E-09	2.8861E+16	2.4160E+12
I-133	1.0799E+02	9.5330E-08	4.3164E+17	3.9956E+12
I-134	4.6445E+01	1.7410E-09	7.8245E+15	1.7185E+12
I-135	9.2428E+01	2.6319E-08	1.1740E+17	3.4198E+12
Xe-133	1.4136E+04	7.5518E-05	3.4194E+20	5.2301E+14
Xe-135	6.8758E+03	2.6925E-06	1.2011E+19	2.5440E+14
Cs-134	8.5471E+00	6.6060E-06	2.9688E+19	3.1624E+11
Cs-136	2.4925E+00	3.4009E-08	1.5059E+17	9.2223E+10
Cs-137	6.8846E+00	7.9149E-05	3.4792E+20	2.5473E+11
Ba-139	1.5212E+00	9.3001E-11	4.0293E+14	5.6285E+10
Ba-140	3.1194E+00	4.2610E-08	1.8329E+17	1.1542E+11
La-140	6.1308E-02	1.1030E-10	4.7446E+14	2.2684E+09
La-141	2.2559E-02	3.9889E-12	1.7037E+13	8.3467E+08
La-142	1.4750E-02	1.0304E-12	4.3697E+12	5.4573E+08
Ce-141	7.3657E-02	2.5851E-09	1.1041E+16	2.7253E+09
Ce-143	6.9876E-02	1.0522E-10	4.4312E+14	2.5854E+09
Ce-144	5.9160E-02	1.8548E-08	7.7571E+16	2.1889E+09
Pr-143	2.8483E-02	4.2298E-10	1.7813E+15	1.0539E+09
Nd-147	1.1464E-02	1.4171E-10	5.8053E+14	4.2416E+08
Np-239	8.4380E-01	3.6372E-09	9.1647E+15	3.1220E+10
Pu-238	2.6214E-04	1.5312E-08	3.8744E+16	9.6991E+06
Pu-239	2.2823E-05	3.6719E-07	9.2522E+17	8.4447E+05
Pu-240	4.2398E-05	1.8607E-07	4.6688E+17	1.5687E+06
Pu-241	9.0782E-03	8.8127E-08	2.2021E+17	3.3589E+08
Am-241	6.5619E-06	1.9119E-09	4.7774E+15	2.4279E+05
Cm-242	1.6035E-03	4.8383E-10	1.2040E+15	5.9331E+07
Cm-244	1.1214E-04	1.3861E-09	3.4209E+15	4.1490E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.0711E+21	4.2654E+17	
Elemental I (atoms)	8.3846E+17	1.1645E+14	
Organic I (atoms)	1.9877E+17	2.7607E+13	
Aerosols (kg)	8.9144E-05	1.2381E-08	
Dose Effective (Ci) I-131 (Thyroid)			7.5154E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			9.3768E+01
Total I (Ci)			3.6623E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7689E+21
Elemental I (atoms)    3.4100E+16  4.6444E+17
Organic I (atoms)      0.0000E+00  1.1102E+17
Aerosols (kg)          4.9023E-04  6.7991E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1143E+21
Elemental I (atoms)    5.5348E+16  3.1438E+17
Organic I (atoms)      0.0000E+00  7.4702E+16
Aerosols (kg)          8.1681E-05  2.0140E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8801E+20
Elemental I (atoms)    1.0585E+16  6.0122E+16
Organic I (atoms)      0.0000E+00  1.3117E+16
Aerosols (kg)          8.2502E-06  1.0166E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.4011E+18
Elemental I (atoms)    8.3389E+14  1.1131E+14
Organic I (atoms)      2.1077E+14  1.0312E+13
Aerosols (kg)          8.6678E-08  1.4190E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.2886E+17
Elemental I (atoms)    0.0000E+00  3.7190E+14
Organic I (atoms)      0.0000E+00  6.1596E+13
Aerosols (kg)          0.0000E+00  4.3421E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.8601E+18  0.0000E+00
Elemental I (atoms)    3.7221E+14  0.0000E+00
Organic I (atoms)      4.3543E+13  0.0000E+00
Aerosols (kg)          4.6195E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2606E-01  9.0357E-01  1.7165E-01
Accumulated dose (rem)  7.6884E-01  8.2205E+00  1.1700E+00

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4742E-03  3.9239E-02  7.4542E-03
Accumulated dose (rem)  7.2826E-02  8.0591E-01  1.1207E-01

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
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Delta dose (rem)	2.0562E-02	1.1105E+00	7.5004E-02
Accumulated dose (rem)	7.5976E-02	1.0306E+01	5.3725E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	1.1009E+06	2.8059E+00	1.9879E+25	1.6549E+20
Kr-85m	1.2569E+07	1.5273E-03	1.0821E+22	2.0979E+21
Kr-87	1.0771E+07	3.8024E-04	2.6320E+21	2.3970E+21
Kr-88	2.8283E+07	2.2555E-03	1.5435E+22	5.0266E+21
Rb-86	1.8489E+02	2.2722E-06	1.5911E+19	4.7666E+17
Sr-89	9.1756E+03	3.1583E-04	2.1371E+21	1.7923E+19
Sr-90	1.2480E+03	9.1487E-03	6.1217E+22	2.4364E+18
Sr-91	9.6972E+03	2.6751E-06	1.7703E+19	2.0241E+19
Sr-92	6.7207E+03	5.3469E-07	3.4999E+18	1.6662E+19
Y-90	1.9839E+01	3.6464E-08	2.4399E+17	2.6893E+16
Y-91	1.1662E+02	4.7554E-06	3.1470E+19	2.2594E+17
Y-92	8.1319E+02	8.4510E-08	5.5319E+17	4.4316E+17
Y-93	1.1103E+02	3.3280E-08	2.1550E+17	2.3084E+17
Zr-95	1.3712E+02	6.3829E-06	4.0462E+19	2.6782E+17
Zr-97	1.2050E+02	6.3036E-08	3.9135E+17	2.4424E+17
Nb-95	1.3691E+02	3.5012E-06	2.2195E+19	2.6729E+17
Mo-99	1.6873E+03	3.5181E-06	2.1400E+19	3.3259E+18
Tc-99m	1.5227E+03	2.8958E-07	1.7615E+18	2.9722E+18
Ru-103	1.5140E+03	4.6912E-05	2.7428E+20	2.9579E+18
Ru-105	7.7782E+02	1.1571E-07	6.6365E+17	1.7543E+18
Ru-106	6.8391E+02	2.0442E-04	1.1614E+21	1.3353E+18
Rh-105	1.0254E+03	1.2148E-06	6.9676E+18	2.0074E+18
Sb-127	1.7186E+03	6.4353E-06	3.0515E+19	3.3782E+18
Sb-129	3.7770E+03	6.7166E-07	3.1355E+18	8.5537E+18
Te-127	1.7240E+03	6.5325E-07	3.0976E+18	3.3635E+18
Te-127m	2.9602E+02	3.1383E-05	1.4881E+20	5.7791E+17
Te-129	4.3128E+03	2.0594E-07	9.6138E+17	9.0584E+18
Te-129m	9.6892E+02	3.2163E-05	1.5015E+20	1.8917E+18
Te-131m	3.4552E+03	4.3331E-06	1.9920E+19	6.8894E+18
Te-132	2.5377E+04	8.3588E-05	3.8135E+20	4.9945E+19
I-131	1.1548E+05	9.3147E-04	4.2820E+21	2.3085E+20
I-132	1.4818E+05	1.4356E-05	6.5494E+19	3.2783E+20
I-133	2.2494E+05	1.9856E-04	8.9908E+20	4.6525E+20
I-134	4.8724E+04	1.8265E-06	8.2084E+18	2.6250E+20
I-135	1.8136E+05	5.1643E-05	2.3037E+20	4.0724E+20
Xe-133	1.0349E+08	5.5290E-01	2.5035E+24	1.5594E+22
Xe-135	5.0536E+07	1.9789E-02	8.8276E+22	7.7744E+21
Cs-134	2.1264E+04	1.6435E-02	7.3861E+22	5.4725E+19
Cs-136	6.1895E+03	8.4451E-05	3.7395E+20	1.5970E+19
Cs-137	1.7128E+04	1.9692E-01	8.6561E+23	4.4080E+19
Ba-139	4.6223E+03	2.8259E-07	1.2243E+18	1.4608E+19
Ba-140	1.3498E+04	1.8438E-04	7.9310E+20	2.6407E+19
La-140	2.5682E+02	4.6206E-07	1.9875E+18	2.9820E+17
La-141	8.6603E+01	1.5313E-08	6.5404E+16	1.9909E+17
La-142	4.6600E+01	3.2553E-09	1.3806E+16	1.3962E+17
Ce-141	3.1917E+02	1.1202E-05	4.7842E+19	6.2335E+17
Ce-143	2.9854E+02	4.4955E-07	1.8932E+18	5.9411E+17
Ce-144	2.5637E+02	8.0379E-05	3.3615E+20	5.0056E+17
Pr-143	1.2342E+02	1.8328E-06	7.7182E+18	2.4060E+17
Nd-147	4.9593E+01	6.1303E-07	2.5114E+18	9.7054E+16
Np-239	3.6265E+03	1.5632E-05	3.9389E+19	7.1596E+18
Pu-238	1.1361E+00	6.6360E-05	1.6791E+20	2.2179E+15
Pu-239	9.8919E-02	1.5915E-03	4.0100E+21	1.9310E+14
Pu-240	1.8374E-01	8.0636E-04	2.0233E+21	3.5873E+14
Pu-241	3.9343E+01	3.8192E-04	9.5434E+20	7.6810E+16
Am-241	2.8439E-02	8.2861E-06	2.0705E+19	5.5514E+13
Cm-242	6.9485E+00	2.0965E-06	5.2172E+18	1.3568E+16
Cm-244	4.8597E-01	6.0068E-06	1.4825E+19	9.4877E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	2.2500E+25	0.0000E+00	
Elemental I (atoms)	2.1278E+20	5.5928E+22	
Organic I (atoms)	1.1046E+21	0.0000E+00	
Aerosols (kg)	2.2741E-01	6.0269E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.9144E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.3181E-05
Total I (Ci)			7.1868E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6619E+21
Elemental I (atoms)	0.0000E+00	1.4709E+18
Organic I (atoms)	0.0000E+00	4.8143E+17
Aerosols (kg)	0.0000E+00	1.5974E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6619E+21
Elemental I (atoms)	0.0000E+00	1.4709E+18
Organic I (atoms)	0.0000E+00	4.8143E+17
Aerosols (kg)	0.0000E+00	1.5974E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3260E+21
Elemental I (atoms)	0.0000E+00	7.3431E+17
Organic I (atoms)	0.0000E+00	2.4042E+17
Aerosols (kg)	0.0000E+00	7.9741E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3105E+25
Elemental I (atoms)	0.0000E+00	5.2808E+21
Organic I (atoms)	0.0000E+00	1.8238E+21
Aerosols (kg)	0.0000E+00	5.7345E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0439E+25
Elemental I (atoms)	0.0000E+00	4.2175E+21
Organic I (atoms)	0.0000E+00	1.1791E+21
Aerosols (kg)	0.0000E+00	4.6403E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.8406E+02	4.6913E-04	3.3238E+21	6.8101E+12
Kr-85m	2.2767E+03	2.7665E-07	1.9600E+18	8.4238E+13
Kr-87	2.4237E+03	8.5564E-08	5.9227E+17	8.9675E+13
Kr-88	5.3733E+03	4.2852E-07	2.9325E+18	1.9881E+14
Rb-86	8.2595E-02	1.0151E-09	7.1081E+15	3.0560E+09
Sr-89	2.4528E+00	8.4426E-08	5.7126E+17	9.0752E+10
Sr-90	3.3348E-01	2.4447E-06	1.6358E+19	1.2339E+10

Sr-91	2.7067E+00	7.4667E-10	4.9413E+15	1.0015E+11
Sr-92	2.0993E+00	1.6701E-10	1.0932E+15	7.7673E+10
Y-90	5.5995E-03	1.0292E-11	6.8867E+13	2.0718E+08
Y-91	3.1228E-02	1.2734E-09	8.4268E+15	1.1554E+09
Y-92	2.7804E-01	2.8895E-11	1.8914E+14	1.0287E+10
Y-93	3.0911E-02	9.2649E-12	5.9994E+13	1.1437E+09
Zr-95	3.6652E-02	1.7061E-09	1.0815E+16	1.3561E+09
Zr-97	3.2997E-02	1.7261E-11	1.0716E+14	1.2209E+09
Nb-95	3.6585E-02	9.3561E-10	5.9309E+15	1.3537E+09
Mo-99	4.5371E-01	9.4598E-10	5.7544E+15	1.6787E+10
Tc-99m	4.0743E-01	7.7484E-11	4.7133E+14	1.5075E+10
Ru-103	4.0476E-01	1.2541E-08	7.3326E+16	1.4976E+10
Ru-105	2.2837E-01	3.3973E-11	1.9485E+14	8.4496E+09
Ru-106	1.8276E-01	5.4628E-08	3.1036E+17	6.7622E+09
Rh-105	2.7462E-01	3.2535E-10	1.8660E+15	1.0161E+10
Sb-127	4.6128E-01	1.7273E-09	8.1907E+15	1.7068E+10
Sb-129	1.1119E+00	1.9773E-10	9.2304E+14	4.1140E+10
Te-127	4.6091E-01	1.7465E-10	8.2814E+14	1.7054E+10
Te-127m	7.9102E-02	8.3860E-09	3.9765E+16	2.9268E+09
Te-129	1.2188E+00	5.8197E-11	2.7168E+14	4.5095E+10
Te-129m	2.5893E-01	8.5950E-09	4.0124E+16	9.5803E+09
Te-131m	9.3606E-01	1.1739E-09	5.3964E+15	3.4634E+10
Te-132	6.8169E+00	2.2454E-08	1.0244E+17	2.5223E+11
I-131	6.0768E+01	4.9017E-07	2.2533E+18	2.2484E+12
I-132	7.2771E+01	7.0500E-09	3.2164E+16	2.6925E+12
I-133	1.2107E+02	1.0687E-07	4.8391E+17	4.4795E+12
I-134	4.9389E+01	1.8514E-09	8.3204E+15	1.8274E+12
I-135	1.0301E+02	2.9332E-08	1.3084E+17	3.8113E+12
Xe-133	1.7314E+04	9.2497E-05	4.1882E+20	6.4061E+14
Xe-135	8.3918E+03	3.2861E-06	1.4659E+19	3.1049E+14
Cs-134	9.4882E+00	7.3334E-06	3.2957E+19	3.5106E+11
Cs-136	2.7665E+00	3.7747E-08	1.6714E+17	1.0236E+11
Cs-137	7.6427E+00	8.7865E-05	3.8623E+20	2.8278E+11
Ba-139	1.6942E+00	1.0357E-10	4.4873E+14	6.2684E+10
Ba-140	3.6118E+00	4.9336E-08	2.1222E+17	1.3364E+11
La-140	7.3776E-02	1.3273E-10	5.7095E+14	2.7297E+09
La-141	2.5746E-02	4.5524E-12	1.9443E+13	9.5259E+08
La-142	1.6488E-02	1.1518E-12	4.8848E+12	6.1007E+08
Ce-141	8.5297E-02	2.9936E-09	1.2786E+16	3.1560E+09
Ce-143	8.0777E-02	1.2164E-10	5.1225E+14	2.9887E+09
Ce-144	6.8511E-02	2.1480E-08	8.9831E+16	2.5349E+09
Pr-143	3.2989E-02	4.8990E-10	2.0631E+15	1.2206E+09
Nd-147	1.3273E-02	1.6407E-10	6.7214E+14	4.9110E+08
Np-239	9.7615E-01	4.2077E-09	1.0602E+16	3.6118E+10
Pu-238	3.0358E-04	1.7733E-08	4.4869E+16	1.1232E+07
Pu-239	2.6431E-05	4.2524E-07	1.0715E+18	9.7796E+05
Pu-240	4.9100E-05	2.1548E-07	5.4068E+17	1.8167E+06
Pu-241	1.0513E-02	1.0206E-07	2.5502E+17	3.8899E+08
Am-241	7.5993E-06	2.2141E-09	5.5327E+15	2.8117E+05
Cm-242	1.8570E-03	5.6030E-10	1.3943E+15	6.8709E+07
Cm-244	1.2986E-04	1.6052E-09	3.9617E+15	4.8049E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.7627E+21	4.7509E+17
Elemental I (atoms)	9.4057E+17	1.1876E+14
Organic I (atoms)	2.3671E+17	2.9888E+13
Aerosols (kg)	9.9106E-05	1.2513E-08

Dose Effective (Ci) I-131 (Thyroid)	8.4385E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0516E+02
Total I (Ci)	4.0700E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1330E+21
Elemental I (atoms)    3.7786E+16  5.1463E+17
Organic I (atoms)      0.0000E+00  1.3048E+17
Aerosols (kg)          5.4187E-04  7.5153E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3907E+21
Elemental I (atoms)    6.2835E+16  3.5690E+17
Organic I (atoms)      0.0000E+00  9.0231E+16
Aerosols (kg)          9.2409E-05  2.2785E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3921E+20
Elemental I (atoms)    1.2273E+16  6.9713E+16
Organic I (atoms)      0.0000E+00  1.6135E+16
Aerosols (kg)          9.5353E-06  1.1749E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0239E+18
Elemental I (atoms)    9.2507E+14  1.1223E+14
Organic I (atoms)      2.4465E+14  1.0654E+13
Aerosols (kg)          9.5559E-08  1.4279E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6554E+17
Elemental I (atoms)    0.0000E+00  3.9211E+14
Organic I (atoms)      0.0000E+00  6.9107E+13
Aerosols (kg)          0.0000E+00  4.5389E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.6265E+18  0.0000E+00
Elemental I (atoms)    4.0516E+14  0.0000E+00
Organic I (atoms)      5.2422E+13  0.0000E+00
Aerosols (kg)          4.9663E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.6322E-02  4.5179E-01  8.9024E-02
Accumulated dose (rem)  8.3516E-01  8.6723E+00  1.2591E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.8801E-03  1.9620E-02  3.8660E-03
Accumulated dose (rem)  7.5706E-02  8.2553E-01  1.1593E-01

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.9831E-03  5.1123E-01  3.5164E-02
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Accumulated dose (rem) 8.5959E-02 1.0818E+01 5.7241E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	1.0819E+06	2.7577E+00	1.9538E+25	1.7990E+20
Kr-85m	1.2164E+07	1.4780E-03	1.0472E+22	2.2612E+21
Kr-87	1.0024E+07	3.5388E-04	2.4496E+21	2.5342E+21
Kr-88	2.7126E+07	2.1633E-03	1.4804E+22	5.3924E+21
Rb-86	1.1589E+02	1.4243E-06	9.9735E+18	4.7821E+17
Sr-89	5.7005E+03	1.9622E-04	1.3277E+21	1.7999E+19
Sr-90	7.7535E+02	5.6841E-03	3.8034E+22	2.4467E+18
Sr-91	5.9811E+03	1.6500E-06	1.0919E+19	2.0321E+19
Sr-92	4.0701E+03	3.2381E-07	2.1196E+18	1.6717E+19
Y-90	1.3886E+01	2.5523E-08	1.7078E+17	2.7066E+16
Y-91	7.2693E+01	2.9642E-06	1.9616E+19	2.2690E+17
Y-92	6.4968E+02	6.7517E-08	4.4196E+17	4.5081E+17
Y-93	6.8513E+01	2.0536E-08	1.3298E+17	2.3175E+17
Zr-95	8.5191E+01	3.9655E-06	2.5138E+19	2.6895E+17
Zr-97	7.4563E+01	3.9004E-08	2.4215E+17	2.4524E+17
Nb-95	8.5062E+01	2.1753E-06	1.3790E+19	2.6842E+17
Mo-99	1.0472E+03	2.1835E-06	1.3282E+19	3.3398E+18
Tc-99m	9.4583E+02	1.7988E-07	1.0942E+18	2.9847E+18
Ru-103	9.4060E+02	2.9144E-05	1.7040E+20	2.9704E+18
Ru-105	4.7578E+02	7.0779E-08	4.0594E+17	1.7607E+18
Ru-106	4.2491E+02	1.2701E-04	7.2155E+20	1.3410E+18
Rh-105	6.3677E+02	7.5442E-07	4.3269E+18	2.0159E+18
Sb-127	1.0670E+03	3.9953E-06	1.8945E+19	3.3924E+18
Sb-129	2.3093E+03	4.1066E-07	1.9171E+18	8.5847E+18
Te-127	1.0710E+03	4.0583E-07	1.9244E+18	3.3777E+18
Te-127m	1.8392E+02	1.9498E-05	9.2457E+19	5.8036E+17
Te-129	2.6546E+03	1.2676E-07	5.9175E+17	9.0930E+18
Te-129m	6.0198E+02	1.9983E-05	9.3285E+19	1.8997E+18
Te-131m	2.1418E+03	2.6860E-06	1.2347E+19	6.9179E+18
Te-132	1.5753E+04	5.1888E-05	2.3672E+20	5.0155E+19
I-131	8.0589E+04	6.5004E-04	2.9883E+21	2.3193E+20
I-132	9.8984E+04	9.5895E-06	4.3749E+19	3.2916E+20
I-133	1.5651E+05	1.3816E-04	6.2559E+20	4.6733E+20
I-134	3.1430E+04	1.1782E-06	5.2949E+18	2.6294E+20
I-135	1.2530E+05	3.5678E-05	1.5915E+20	4.0892E+20
Xe-133	1.0165E+08	5.4308E-01	2.4590E+24	1.6948E+22
Xe-135	4.9249E+07	1.9285E-02	8.6028E+22	8.4329E+21
Cs-134	1.3331E+04	1.0303E-02	4.6304E+22	5.4902E+19
Cs-136	3.8794E+03	5.2932E-05	2.3439E+20	1.6021E+19
Cs-137	1.0738E+04	1.2345E-01	5.4266E+23	4.4223E+19
Ba-139	2.7310E+03	1.6696E-07	7.2336E+17	1.4645E+19
Ba-140	8.3844E+03	1.1453E-04	4.9264E+20	2.6518E+19
La-140	1.8630E+02	3.3518E-07	1.4418E+18	3.0049E+17
La-141	5.2866E+01	9.3479E-09	3.9925E+16	1.9980E+17
La-142	2.7680E+01	1.9336E-09	8.2004E+15	1.4000E+17
Ce-141	1.9828E+02	6.9589E-06	2.9722E+19	6.2599E+17
Ce-143	1.8509E+02	2.7872E-07	1.1738E+18	5.9658E+17
Ce-144	1.5928E+02	4.9939E-05	2.0885E+20	5.0268E+17
Pr-143	7.6723E+01	1.1394E-06	4.7981E+18	2.4163E+17
Nd-147	3.0804E+01	3.8078E-07	1.5599E+18	9.7464E+16
Np-239	2.2504E+03	9.7004E-06	2.4442E+19	7.1896E+18
Pu-238	7.0583E-01	4.1229E-05	1.0432E+20	2.2273E+15
Pu-239	6.1459E-02	9.8878E-04	2.4915E+21	1.9392E+14
Pu-240	1.1416E-01	5.0100E-04	1.2571E+21	3.6025E+14
Pu-241	2.4444E+01	2.3729E-04	5.9294E+20	7.7135E+16
Am-241	1.7670E-02	5.1484E-06	1.2865E+19	5.5749E+13
Cm-242	4.3171E+00	1.3026E-06	3.2414E+18	1.3625E+16
Cm-244	3.0193E-01	3.7320E-06	9.2110E+18	9.5279E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    2.2110E+25  0.0000E+00
Elemental I (atoms)    1.3290E+20  5.6172E+22
Organic I (atoms)      1.0860E+21  0.0000E+00
Aerosols (kg)          1.4249E-01  6.0530E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.1221E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0909E-05
Total I (Ci)                                   4.9281E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1533E+21
Elemental I (atoms)    0.0000E+00  1.4745E+18
Organic I (atoms)      0.0000E+00  5.0558E+17
Aerosols (kg)          0.0000E+00  1.6012E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1533E+21
Elemental I (atoms)    0.0000E+00  1.4745E+18
Organic I (atoms)      0.0000E+00  5.0558E+17
Aerosols (kg)          0.0000E+00  1.6012E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5724E+21
Elemental I (atoms)    0.0000E+00  7.3611E+17
Organic I (atoms)      0.0000E+00  2.5253E+17
Aerosols (kg)          0.0000E+00  7.9933E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6062E+25
Elemental I (atoms)    0.0000E+00  5.3024E+21
Organic I (atoms)      0.0000E+00  1.9691E+21
Aerosols (kg)          0.0000E+00  5.7576E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3010E+25
Elemental I (atoms)    0.0000E+00  4.4076E+21
Organic I (atoms)      0.0000E+00  1.3077E+21
Aerosols (kg)          0.0000E+00  4.8440E+00

Environment Integral Nuclide Release:

Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  2.0254E+02  5.1625E-04  3.6575E+21  7.4940E+12
Kr-85m                 2.4845E+03  3.0190E-07  2.1389E+18  9.1927E+13
Kr-87                  2.5949E+03  9.1610E-08  6.3412E+17  9.6011E+13
Kr-88                  5.8368E+03  4.6548E-07  3.1854E+18  2.1596E+14
Rb-86                  8.6626E-02  1.0646E-09  7.4551E+15  3.2052E+09
Sr-89                  2.6187E+00  9.0139E-08  6.0992E+17  9.6893E+10
Sr-90                  3.5605E-01  2.6102E-06  1.7466E+19  1.3174E+10
Sr-91                  2.8808E+00  7.9471E-10  5.2592E+15  1.0659E+11
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Sr-92	2.2178E+00	1.7644E-10	1.1550E+15	8.2057E+10
Y-90	6.0808E-03	1.1177E-11	7.4786E+13	2.2499E+08
Y-91	3.3357E-02	1.3602E-09	9.0013E+15	1.2342E+09
Y-92	3.0479E-01	3.1675E-11	2.0734E+14	1.1277E+10
Y-93	3.2905E-02	9.8628E-12	6.3866E+13	1.2175E+09
Zr-95	3.9132E-02	1.8216E-09	1.1547E+16	1.4479E+09
Zr-97	3.5167E-02	1.8396E-11	1.1421E+14	1.3012E+09
Nb-95	3.9062E-02	9.9895E-10	6.3324E+15	1.4453E+09
Mo-99	4.8420E-01	1.0096E-09	6.1411E+15	1.7915E+10
Tc-99m	4.3497E-01	8.2721E-11	5.0319E+14	1.6094E+10
Ru-103	4.3214E-01	1.3390E-08	7.8287E+16	1.5989E+10
Ru-105	2.4222E-01	3.6034E-11	2.0667E+14	8.9621E+09
Ru-106	1.9513E-01	5.8326E-08	3.3137E+17	7.2200E+09
Rh-105	2.9315E-01	3.4732E-10	1.9920E+15	1.0847E+10
Sb-127	4.9235E-01	1.8436E-09	8.7423E+15	1.8217E+10
Sb-129	1.1791E+00	2.0968E-10	9.7886E+14	4.3627E+10
Te-127	4.9209E-01	1.8646E-10	8.8417E+14	1.8207E+10
Te-127m	8.4457E-02	8.9537E-09	4.2457E+16	3.1249E+09
Te-129	1.2961E+00	6.1888E-11	2.8891E+14	4.7955E+10
Te-129m	2.7645E-01	9.1768E-09	4.2840E+16	1.0229E+10
Te-131m	9.9842E-01	1.2521E-09	5.7559E+15	3.6942E+10
Te-132	7.2756E+00	2.3965E-08	1.0933E+17	2.6920E+11
I-131	6.4126E+01	5.1725E-07	2.3778E+18	2.3727E+12
I-132	7.6402E+01	7.4018E-09	3.3769E+16	2.8269E+12
I-133	1.2759E+02	1.1263E-07	5.0998E+17	4.7208E+12
I-134	5.0699E+01	1.9005E-09	8.5411E+15	1.8759E+12
I-135	1.0823E+02	3.0819E-08	1.3748E+17	4.0045E+12
Xe-133	1.9048E+04	1.0176E-04	4.6078E+20	7.0479E+14
Xe-135	9.2129E+03	3.6076E-06	1.6093E+19	3.4088E+14
Cs-134	9.9519E+00	7.6918E-06	3.4568E+19	3.6822E+11
Cs-136	2.9014E+00	3.9588E-08	1.7530E+17	1.0735E+11
Cs-137	8.0162E+00	9.2159E-05	4.0511E+20	2.9660E+11
Ba-139	1.7737E+00	1.0844E-10	4.6979E+14	6.5626E+10
Ba-140	3.8559E+00	5.2670E-08	2.2656E+17	1.4267E+11
La-140	8.0518E-02	1.4486E-10	6.2313E+14	2.9792E+09
La-141	2.7285E-02	4.8246E-12	2.0606E+13	1.0095E+09
La-142	1.7294E-02	1.2081E-12	5.1236E+12	6.3989E+08
Ce-141	9.1069E-02	3.1962E-09	1.3651E+16	3.3696E+09
Ce-143	8.6165E-02	1.2975E-10	5.4642E+14	3.1881E+09
Ce-144	7.3149E-02	2.2934E-08	9.5912E+16	2.7065E+09
Pr-143	3.5225E-02	5.2311E-10	2.2030E+15	1.3033E+09
Nd-147	1.4170E-02	1.7516E-10	7.1756E+14	5.2428E+08
Np-239	1.0417E+00	4.4901E-09	1.1314E+16	3.8542E+10
Pu-238	3.2413E-04	1.8933E-08	4.7906E+16	1.1993E+07
Pu-239	2.8221E-05	4.5403E-07	1.1440E+18	1.0442E+06
Pu-240	5.2424E-05	2.3006E-07	5.7728E+17	1.9397E+06
Pu-241	1.1225E-02	1.0897E-07	2.7229E+17	4.1532E+08
Am-241	8.1137E-06	2.3640E-09	5.9073E+15	3.0021E+05
Cm-242	1.9827E-03	5.9822E-10	1.4887E+15	7.3359E+07
Cm-244	1.3865E-04	1.7138E-09	4.2298E+15	5.1301E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	4.1404E+21	5.0005E+17
Elemental I (atoms)	9.9161E+17	1.1976E+14
Organic I (atoms)	2.5715E+17	3.1056E+13
Aerosols (kg)	1.0402E-04	1.2562E-08

Dose Effective (Ci) I-131 (Thyroid)	8.9003E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1085E+02
Total I (Ci)	4.2705E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.3287E+21
Elemental I (atoms)    3.9567E+16  5.3889E+17
Organic I (atoms)      0.0000E+00  1.4083E+17
Aerosols (kg)          5.6688E-04  7.8623E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5438E+21
Elemental I (atoms)    6.6676E+16  3.7872E+17
Organic I (atoms)      0.0000E+00  9.8683E+16
Aerosols (kg)          9.7913E-05  2.4143E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6809E+20
Elemental I (atoms)    1.3162E+16  7.4760E+16
Organic I (atoms)      0.0000E+00  1.7805E+16
Aerosols (kg)          1.0211E-05  1.2582E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3640E+18
Elemental I (atoms)    9.7064E+14  1.1269E+14
Organic I (atoms)      2.6290E+14  1.0838E+13
Aerosols (kg)          9.9936E-08  1.4324E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0402E+18
Elemental I (atoms)    0.0000E+00  4.0222E+14
Organic I (atoms)      0.0000E+00  7.3151E+13
Aerosols (kg)          0.0000E+00  4.6359E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    3.0124E+18  0.0000E+00
Elemental I (atoms)    4.2030E+14  0.0000E+00
Organic I (atoms)      5.6770E+13  0.0000E+00
Aerosols (kg)          5.1242E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2929E+00  7.2349E+00  1.6466E+00
Accumulated dose (rem)  2.1281E+00  1.5907E+01  2.9057E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.6148E-02  3.1418E-01  7.1508E-02
Accumulated dose (rem)  1.3185E-01  1.1397E+00  1.8744E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7768E-01  6.6886E+00  5.0750E-01
Accumulated dose (rem)  2.6364E-01  1.7506E+01  1.0799E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	1.0337E+06	2.6346E+00	1.8666E+25	4.1559E+20
Kr-85m	8.9331E+06	1.0855E-03	7.6906E+21	4.5926E+21
Kr-87	3.7913E+06	1.3385E-04	9.2648E+20	3.9610E+21
Kr-88	1.7115E+07	1.3649E-03	9.3404E+21	1.0234E+22
Rb-86	1.4135E+02	1.7372E-06	1.2165E+19	5.2984E+17
Sr-89	6.9388E+03	2.3884E-04	1.6161E+21	2.0532E+19
Sr-90	9.4470E+02	6.9256E-03	4.6341E+22	2.7914E+18
Sr-91	6.4374E+03	1.7758E-06	1.1752E+19	2.2838E+19
Sr-92	3.2105E+03	2.5542E-07	1.6719E+18	1.8216E+19
Y-90	3.4217E+01	6.2891E-08	4.2082E+17	3.5955E+16
Y-91	9.0969E+01	3.7094E-06	2.4548E+19	2.5960E+17
Y-92	1.7301E+03	1.7980E-07	1.1769E+18	9.1306E+17
Y-93	7.4285E+01	2.2266E-08	1.4418E+17	2.6067E+17
Zr-95	1.0372E+02	4.8280E-06	3.0605E+19	3.0681E+17
Zr-97	8.4730E+01	4.4323E-08	2.7517E+17	2.7737E+17
Nb-95	1.0364E+02	2.6504E-06	1.6801E+19	3.0623E+17
Mo-99	1.2534E+03	2.6134E-06	1.5897E+19	3.8016E+18
Tc-99m	1.1465E+03	2.1803E-07	1.3263E+18	3.4019E+18
Ru-103	1.1446E+03	3.5466E-05	2.0736E+20	3.3882E+18
Ru-105	4.4457E+02	6.6136E-08	3.7932E+17	1.9490E+18
Ru-106	5.1765E+02	1.5473E-04	8.7904E+20	1.5298E+18
Rh-105	7.6712E+02	9.0885E-07	5.2126E+18	2.2974E+18
Sb-127	1.2835E+03	4.8062E-06	2.2790E+19	3.8640E+18
Sb-129	2.1420E+03	3.8091E-07	1.7782E+18	9.4956E+18
Te-127	1.3024E+03	4.9351E-07	2.3401E+18	3.8517E+18
Te-127m	2.2409E+02	2.3757E-05	1.1265E+20	6.6211E+17
Te-129	2.7025E+03	1.2904E-07	6.0242E+17	1.0160E+19
Te-129m	7.3319E+02	2.4338E-05	1.1362E+20	2.1672E+18
Te-131m	2.5091E+03	3.1466E-06	1.4465E+19	7.8534E+18
Te-132	1.8906E+04	6.2275E-05	2.8411E+20	5.7110E+19
I-131	1.0111E+05	8.1556E-04	3.7492E+21	2.6386E+20
I-132	8.3122E+04	8.0527E-06	3.6738E+19	3.6154E+20
I-133	1.8666E+05	1.6478E-04	7.4611E+20	5.2791E+20
I-134	1.0345E+04	3.8778E-07	1.7427E+18	2.7010E+20
I-135	1.3232E+05	3.7678E-05	1.6808E+20	4.5481E+20
Xe-133	9.6205E+07	5.1396E-01	2.3272E+24	3.8989E+22
Xe-135	4.1265E+07	1.6159E-02	7.2082E+22	1.8483E+22
Cs-134	1.6301E+04	1.2599E-02	5.6623E+22	6.0848E+19
Cs-136	4.7265E+03	6.4490E-05	2.8556E+20	1.7749E+19
Cs-137	1.3132E+04	1.5097E-01	6.6363E+23	4.9012E+19
Ba-139	1.4153E+03	8.6523E-08	3.7486E+17	1.5495E+19
Ba-140	1.0176E+04	1.3901E-04	5.9794E+20	3.0239E+19
La-140	5.2085E+02	9.3707E-07	4.0308E+18	4.2956E+17
La-141	4.7726E+01	8.4391E-09	3.6043E+16	2.2041E+17
La-142	1.5704E+01	1.0970E-09	4.6525E+15	1.4892E+17
Ce-141	2.4131E+02	8.4688E-06	3.6171E+19	7.1408E+17
Ce-143	2.1761E+02	3.2769E-07	1.3800E+18	6.7755E+17
Ce-144	1.9404E+02	6.0836E-05	2.5442E+20	5.7347E+17
Pr-143	9.3954E+01	1.3952E-06	5.8758E+18	2.7580E+17
Nd-147	3.7365E+01	4.6187E-07	1.8922E+18	1.1113E+17
Np-239	2.6854E+03	1.1575E-05	2.9166E+19	8.1806E+18
Pu-238	8.6001E-01	5.0235E-05	1.2711E+20	2.5411E+15
Pu-239	7.4898E-02	1.2050E-03	3.0363E+21	2.2124E+14
Pu-240	1.3909E-01	6.1042E-04	1.5317E+21	4.1099E+14
Pu-241	2.9782E+01	2.8911E-04	7.2244E+20	8.8000E+16
Am-241	2.1539E-02	6.2756E-06	1.5682E+19	6.3605E+13
Cm-242	5.2584E+00	1.5866E-06	3.9482E+18	1.5544E+16
Cm-244	3.6788E-01	4.5472E-06	1.1223E+19	1.0870E+15

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    2.1083E+25  0.0000E+00
Elemental I (atoms)    5.8420E+20  5.6172E+22
Organic I (atoms)      1.0167E+21  0.0000E+00
Aerosols (kg)          1.7420E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.0747E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.1404E-05
Total I (Ci)                                   5.1356E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7127E+22
Elemental I (atoms)    0.0000E+00  1.6662E+18
Organic I (atoms)      0.0000E+00  8.9447E+17
Aerosols (kg)          0.0000E+00  1.7063E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7127E+22
Elemental I (atoms)    0.0000E+00  1.6662E+18
Organic I (atoms)      0.0000E+00  8.9447E+17
Aerosols (kg)          0.0000E+00  1.7063E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.5706E+21
Elemental I (atoms)    0.0000E+00  8.3223E+17
Organic I (atoms)      0.0000E+00  4.4754E+17
Aerosols (kg)          0.0000E+00  8.5204E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.4040E+25
Elemental I (atoms)    0.0000E+00  6.4558E+21
Organic I (atoms)      0.0000E+00  4.3092E+21
Aerosols (kg)          0.0000E+00  6.3901E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.0022E+25
Elemental I (atoms)    0.0000E+00  6.0260E+21
Organic I (atoms)      0.0000E+00  3.6060E+21
Aerosols (kg)          0.0000E+00  6.2233E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  6.5339E+02  1.6654E-03  1.1799E+22  2.4175E+13
Kr-85m                 6.8558E+03  8.3308E-07  5.9023E+18  2.5367E+14
Kr-87                  5.1376E+03  1.8138E-07  1.2555E+18  1.9009E+14
Kr-88                  1.4810E+04  1.1811E-06  8.0825E+18  5.4796E+14
Rb-86                  1.4581E-01  1.7919E-09  1.2548E+16  5.3948E+09
Sr-89                  5.1125E+00  1.7598E-07  1.1907E+18  1.8916E+11
Sr-90                  6.9541E-01  5.0981E-06  3.4113E+19  2.5730E+10
Sr-91                  5.3406E+00  1.4733E-09  9.7498E+15  1.9760E+11
Sr-92                  3.6578E+00  2.9101E-10  1.9049E+15  1.3534E+11
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Y-90	1.6263E-02	2.9891E-11	2.0001E+14	6.0172E+08
Y-91	6.5771E-02	2.6819E-09	1.7748E+16	2.4335E+09
Y-92	8.7056E-01	9.0473E-11	5.9222E+14	3.2211E+10
Y-93	6.1186E-02	1.8339E-11	1.1875E+14	2.2639E+09
Zr-95	7.6405E-02	3.5565E-09	2.2545E+16	2.8270E+09
Zr-97	6.6675E-02	3.4878E-11	2.1654E+14	2.4670E+09
Nb-95	7.6292E-02	1.9510E-09	1.2368E+16	2.8228E+09
Mo-99	9.3843E-01	1.9566E-09	1.1902E+16	3.4722E+10
Tc-99m	8.4794E-01	1.6126E-10	9.8094E+14	3.1374E+10
Ru-103	8.4357E-01	2.6138E-08	1.5282E+17	3.1212E+10
Ru-105	4.2477E-01	6.3190E-11	3.6242E+14	1.5716E+10
Ru-106	3.8110E-01	1.1391E-07	6.4716E+17	1.4101E+10
Rh-105	5.7040E-01	6.7578E-10	3.8759E+15	2.1105E+10
Sb-127	9.5633E-01	3.5811E-09	1.6981E+16	3.5384E+10
Sb-129	2.0620E+00	3.6668E-10	1.7118E+15	7.6294E+10
Te-127	9.6044E-01	3.6393E-10	1.7257E+15	3.5536E+10
Te-127m	1.6495E-01	1.7488E-08	8.2924E+16	6.1033E+09
Te-129	2.3610E+00	1.1274E-10	5.2631E+14	8.7358E+10
Te-129m	5.3989E-01	1.7921E-08	8.3663E+16	1.9976E+10
Te-131m	1.9174E+00	2.4046E-09	1.1054E+16	7.0945E+10
Te-132	1.4118E+01	4.6503E-08	2.1216E+17	5.2236E+11
I-131	1.1854E+02	9.5618E-07	4.3956E+18	4.3861E+12
I-132	1.2556E+02	1.2164E-08	5.5495E+16	4.6456E+12
I-133	2.3056E+02	2.0353E-07	9.2155E+17	8.5306E+12
I-134	6.2079E+01	2.3271E-09	1.0458E+16	2.2969E+12
I-135	1.8569E+02	5.2877E-08	2.3587E+17	6.8707E+12
Xe-133	6.1154E+04	3.2671E-04	1.4793E+21	2.2627E+15
Xe-135	2.8023E+04	1.0973E-05	4.8950E+19	1.0368E+15
Cs-134	1.6768E+01	1.2960E-05	5.8244E+19	6.2042E+11
Cs-136	4.8814E+00	6.6603E-08	2.9492E+17	1.8061E+11
Cs-137	1.3507E+01	1.5528E-04	6.8259E+20	4.9976E+11
Ba-139	2.5718E+00	1.5723E-10	6.8120E+14	9.5158E+10
Ba-140	7.5185E+00	1.0270E-07	4.4176E+17	2.7818E+11
La-140	2.3195E-01	4.1731E-10	1.7951E+15	8.5822E+09
La-141	4.7233E-02	8.3519E-12	3.5671E+13	1.7476E+09
La-142	2.5714E-02	1.7963E-12	7.6181E+12	9.5143E+08
Ce-141	1.7779E-01	6.2398E-09	2.6650E+16	6.5784E+09
Ce-143	1.6573E-01	2.4956E-10	1.0510E+15	6.1320E+09
Ce-144	1.4286E-01	4.4790E-08	1.8731E+17	5.2857E+09
Pr-143	6.8921E-02	1.0235E-09	4.3102E+15	2.5501E+09
Nd-147	2.7622E-02	3.4144E-10	1.3988E+15	1.0220E+09
Np-239	2.0163E+00	8.6913E-09	2.1900E+16	7.4603E+10
Pu-238	6.3306E-04	3.6978E-08	9.3567E+16	2.3423E+07
Pu-239	5.5123E-05	8.8685E-07	2.2346E+18	2.0396E+06
Pu-240	1.0239E-04	4.4934E-07	1.1275E+18	3.7884E+06
Pu-241	2.1923E-02	2.1282E-07	5.3180E+17	8.1117E+08
Am-241	1.5850E-05	4.6180E-09	1.1539E+16	5.8644E+05
Cm-242	3.8719E-03	1.1682E-09	2.9072E+15	1.4326E+08
Cm-244	2.7080E-04	3.3473E-09	8.2613E+15	1.0020E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.3343E+22	9.2657E+17
Elemental I (atoms)	1.7954E+18	1.2468E+14
Organic I (atoms)	7.2925E+17	5.0642E+13
Aerosols (kg)	1.7627E-04	1.2241E-08

Dose Effective (Ci) I-131 (Thyroid)	1.6311E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.0120E+02
Total I (Ci)	7.2243E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7064E+21

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Elemental I (atoms)    6.5330E+16  8.8978E+17
Organic I (atoms)      0.0000E+00  3.6293E+17
Aerosols (kg)          9.1859E-04  1.2740E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5111E+21
Elemental I (atoms)    1.2908E+17  7.3316E+17
Organic I (atoms)      0.0000E+00  3.0352E+17
Aerosols (kg)          1.8646E-04  4.5976E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1263E+21
Elemental I (atoms)    3.0708E+16  1.7442E+17
Organic I (atoms)      0.0000E+00  6.3675E+16
Aerosols (kg)          2.3519E-05  2.8980E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2651E+19
Elemental I (atoms)    1.6883E+15  1.1994E+14
Organic I (atoms)      6.8439E+14  1.5096E+13
Aerosols (kg)          1.6435E-07  1.4974E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8588E+18
Elemental I (atoms)    0.0000E+00  5.6129E+14
Organic I (atoms)      0.0000E+00  1.6658E+14
Aerosols (kg)          0.0000E+00  6.0637E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    1.1564E+19  0.0000E+00
Elemental I (atoms)    6.1604E+14  0.0000E+00
Organic I (atoms)      1.4281E+14  0.0000E+00
Aerosols (kg)          7.0269E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7204E+00  1.3354E+01  3.3110E+00
Accumulated dose (rem)  4.8485E+00  2.9261E+01  6.2167E+00

Low Population Zone Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1814E-01  5.7991E-01  1.4378E-01
Accumulated dose (rem)  2.4999E-01  1.7196E+00  3.3122E-01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1090E-01  1.1127E+01  9.1568E-01
Accumulated dose (rem)  6.7454E-01  2.8633E+01  1.9956E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	1.0321E+06	2.6307E+00	1.8638E+25	9.6587E+20
Kr-85m	4.8037E+06	5.8372E-04	4.1356E+21	8.1387E+21
Kr-87	4.2781E+05	1.5103E-05	1.0455E+20	4.7823E+21
Kr-88	6.4378E+06	5.1341E-04	3.5134E+21	1.6051E+22
Rb-86	1.7301E+02	2.1263E-06	1.4890E+19	6.2125E+17
Sr-89	8.5263E+03	2.9348E-04	1.9858E+21	2.5028E+19
Sr-90	1.1635E+03	8.5294E-03	5.7073E+22	3.4042E+18
Sr-91	5.9214E+03	1.6335E-06	1.0810E+19	2.6454E+19
Sr-92	1.4214E+03	1.1308E-07	7.4021E+17	1.9513E+19
Y-90	8.9709E+01	1.6489E-07	1.1033E+18	7.0567E+16
Y-91	1.1751E+02	4.7917E-06	3.1710E+19	3.2011E+17
Y-92	2.2441E+03	2.3322E-07	1.5266E+18	2.1417E+18
Y-93	6.9526E+01	2.0839E-08	1.3494E+17	3.0275E+17
Zr-95	1.2751E+02	5.9353E-06	3.7625E+19	3.7403E+17
Zr-97	8.8564E+01	4.6328E-08	2.8762E+17	3.2802E+17
Nb-95	1.2764E+02	3.2641E-06	2.0692E+19	3.7346E+17
Mo-99	1.4802E+03	3.0862E-06	1.8773E+19	4.5977E+18
Tc-99m	1.3839E+03	2.6318E-07	1.6009E+18	4.1347E+18
Ru-103	1.4056E+03	4.3551E-05	2.5463E+20	4.1297E+18
Ru-105	2.9323E+02	4.3622E-08	2.5019E+17	2.1628E+18
Ru-106	6.3733E+02	1.9050E-04	1.0823E+21	1.8656E+18
Rh-105	9.0414E+02	1.0712E-06	6.1437E+18	2.7848E+18
Sb-127	1.5340E+03	5.7443E-06	2.7239E+19	4.6841E+18
Sb-129	1.3885E+03	2.4692E-07	1.1527E+18	1.0518E+19
Te-127	1.5908E+03	6.0276E-07	2.8582E+18	4.6904E+18
Te-127m	2.7599E+02	2.9260E-05	1.3874E+20	8.0749E+17
Te-129	2.0973E+03	1.0015E-07	4.6752E+17	1.1526E+19
Te-129m	9.0136E+02	2.9920E-05	1.3968E+20	2.6425E+18
Te-131m	2.8174E+03	3.5332E-06	1.6242E+19	9.4074E+18
Te-132	2.2474E+04	7.4026E-05	3.3772E+20	6.9158E+19
I-131	1.1491E+05	9.2686E-04	4.2608E+21	3.2503E+20
I-132	4.4950E+04	4.3548E-06	1.9867E+19	3.9589E+20
I-133	1.8830E+05	1.6622E-04	7.5264E+20	6.3434E+20
I-134	5.0451E+02	1.8912E-08	8.4993E+16	2.7198E+20
I-135	1.0026E+05	2.8550E-05	1.2736E+20	5.2056E+20
Xe-133	9.3973E+07	5.0204E-01	2.2732E+24	8.9645E+22
Xe-135	3.0400E+07	1.1904E-02	5.3102E+22	3.7425E+22
Cs-134	2.0074E+04	1.5515E-02	6.9726E+22	7.1423E+19
Cs-136	5.7700E+03	7.8727E-05	3.4861E+20	2.0802E+19
Cs-137	1.6173E+04	1.8593E-01	8.1731E+23	5.7532E+19
Ba-139	2.3318E+02	1.4256E-08	6.1763E+16	1.5885E+19
Ba-140	1.2420E+04	1.6965E-04	7.2976E+20	3.6811E+19
La-140	1.4295E+03	2.5719E-06	1.1063E+19	9.7419E+17
La-141	2.9029E+01	5.1330E-09	2.1923E+16	2.4254E+17
La-142	3.2020E+00	2.2368E-10	9.4863E+14	1.5360E+17
Ce-141	2.9629E+02	1.0398E-05	4.4412E+19	8.7039E+17
Ce-143	2.4641E+02	3.7105E-07	1.5626E+18	8.1290E+17
Ce-144	2.3888E+02	7.4895E-05	3.1321E+20	6.9933E+17
Pr-143	1.1691E+02	1.7362E-06	7.3115E+18	3.3707E+17
Nd-147	4.5537E+01	5.6288E-07	2.3060E+18	1.3524E+17
Np-239	3.1489E+03	1.3573E-05	3.4201E+19	9.8803E+18
Pu-238	1.0592E+00	6.1870E-05	1.5655E+20	3.0990E+15
Pu-239	9.2286E-02	1.4847E-03	3.7411E+21	2.6984E+14
Pu-240	1.7131E-01	7.5179E-04	1.8864E+21	5.0123E+14
Pu-241	3.6679E+01	3.5606E-04	8.8973E+20	1.0732E+17
Am-241	2.6554E-02	7.7368E-06	1.9333E+19	7.7585E+13
Cm-242	6.4716E+00	1.9526E-06	4.8591E+18	1.8954E+16
Cm-244	4.5306E-01	5.6001E-06	1.3822E+19	1.3256E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	2.0972E+25	0.0000E+00

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Elemental I (atoms)    5.5712E+20  5.6172E+22
Organic I (atoms)      9.6680E+20  0.0000E+00
Aerosols (kg)          2.1449E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.5545E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.5131E-05
Total I (Ci)                                   4.4892E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5665E+22
Elemental I (atoms)    0.0000E+00  2.1697E+18
Organic I (atoms)      0.0000E+00  1.7683E+18
Aerosols (kg)          0.0000E+00  1.8929E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5665E+22
Elemental I (atoms)    0.0000E+00  2.1697E+18
Organic I (atoms)      0.0000E+00  1.7683E+18
Aerosols (kg)          0.0000E+00  1.8929E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7866E+22
Elemental I (atoms)    0.0000E+00  1.0847E+18
Organic I (atoms)      0.0000E+00  8.8572E+17
Aerosols (kg)          0.0000E+00  9.4559E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9559E+26
Elemental I (atoms)    0.0000E+00  9.4852E+21
Organic I (atoms)      0.0000E+00  9.5674E+21
Aerosols (kg)          0.0000E+00  7.5127E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8159E+26
Elemental I (atoms)    0.0000E+00  9.0574E+21
Organic I (atoms)      0.0000E+00  8.8650E+21
Aerosols (kg)          0.0000E+00  7.3867E+00

Environment Integral Nuclide Release:

Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  2.3454E+03  5.9782E-03  4.2355E+22  8.6782E+13
Kr-85m                 1.7472E+04  2.1231E-06  1.5042E+19  6.4648E+14
Kr-87                  7.4384E+03  2.6260E-07  1.8177E+18  2.7522E+14
Kr-88                  3.1958E+04  2.5486E-06  1.7441E+19  1.1824E+15
Rb-86                  2.2467E-01  2.7612E-09  1.9335E+16  8.3129E+09
Sr-89                  8.5741E+00  2.9513E-07  1.9970E+18  3.1724E+11
Sr-90                  1.1672E+00  8.5566E-06  5.7255E+19  4.3186E+10
Sr-91                  8.1689E+00  2.2535E-09  1.4913E+16  3.0225E+11
Sr-92                  4.7116E+00  3.7485E-10  2.4537E+15  1.7433E+11
Y-90                   4.2985E-02  7.9007E-11  5.2866E+14  1.5904E+09
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Y-91	1.1240E-01	4.5834E-09	3.0331E+16	4.1589E+09
Y-92	1.8734E+00	1.9469E-10	1.2744E+15	6.9315E+10
Y-93	9.4066E-02	2.8195E-11	1.8257E+14	3.4805E+09
Zr-95	1.2816E-01	5.9656E-09	3.7817E+16	4.7419E+09
Zr-97	1.0602E-01	5.5457E-11	3.4430E+14	3.9226E+09
Nb-95	1.2805E-01	3.2746E-09	2.0758E+16	4.7378E+09
Mo-99	1.5527E+00	3.2373E-09	1.9693E+16	5.7449E+10
Tc-99m	1.4158E+00	2.6925E-10	1.6378E+15	5.2384E+10
Ru-103	1.4144E+00	4.3826E-08	2.5624E+17	5.2334E+10
Ru-105	5.9497E-01	8.8510E-11	5.0764E+14	2.2014E+10
Ru-106	6.3957E-01	1.9117E-07	1.0861E+18	2.3664E+10
Rh-105	9.4663E-01	1.1215E-09	6.4323E+15	3.5025E+10
Sb-127	1.5887E+00	5.9491E-09	2.8210E+16	5.8783E+10
Sb-129	2.8764E+00	5.1150E-10	2.3879E+15	1.0643E+11
Te-127	1.6087E+00	6.0956E-10	2.8904E+15	5.9521E+10
Te-127m	2.7686E-01	2.9352E-08	1.3918E+17	1.0244E+10
Te-129	3.4659E+00	1.6550E-10	7.7259E+14	1.2824E+11
Te-129m	9.0577E-01	3.0067E-08	1.4036E+17	3.3513E+10
Te-131m	3.1197E+00	3.9124E-09	1.7985E+16	1.1543E+11
Te-132	2.3410E+01	7.7111E-08	3.5180E+17	8.6618E+11
I-131	2.2257E+02	1.7953E-06	8.2531E+18	8.2351E+12
I-132	1.8178E+02	1.7611E-08	8.0345E+16	6.7259E+12
I-133	4.1182E+02	3.6354E-07	1.6461E+18	1.5237E+13
I-134	6.5381E+01	2.4509E-09	1.1014E+16	2.4191E+12
I-135	2.9804E+02	8.4867E-08	3.7858E+17	1.1028E+13
Xe-133	2.1675E+05	1.1580E-03	5.2433E+21	8.0199E+15
Xe-135	8.5373E+04	3.3431E-05	1.4913E+20	3.1588E+15
Cs-134	2.5888E+01	2.0009E-05	8.9923E+19	9.5786E+11
Cs-136	7.5155E+00	1.0254E-07	4.5406E+17	2.7807E+11
Cs-137	2.0854E+01	2.3975E-04	1.0539E+21	7.7160E+11
Ba-139	2.9045E+00	1.7757E-10	7.6933E+14	1.0747E+11
Ba-140	1.2580E+01	1.7183E-07	7.3915E+17	4.6545E+11
La-140	6.5279E-01	1.1744E-09	5.0519E+15	2.4153E+10
La-141	6.4925E-02	1.1480E-11	4.9032E+13	2.4022E+09
La-142	2.9660E-02	2.0720E-12	8.7871E+12	1.0974E+09
Ce-141	2.9813E-01	1.0463E-08	4.4688E+16	1.1031E+10
Ce-143	2.7039E-01	4.0717E-10	1.7147E+15	1.0005E+10
Ce-144	2.3974E-01	7.5165E-08	3.1434E+17	8.8703E+09
Pr-143	1.1609E-01	1.7240E-09	7.2603E+15	4.2954E+09
Nd-147	4.6193E-02	5.7100E-10	2.3392E+15	1.7092E+09
Np-239	3.3281E+00	1.4346E-08	3.6148E+16	1.2314E+11
Pu-238	1.0625E-03	6.2065E-08	1.5704E+17	3.9314E+07
Pu-239	9.2535E-05	1.4887E-06	3.7512E+18	3.4238E+06
Pu-240	1.7185E-04	7.5418E-07	1.8924E+18	6.3585E+06
Pu-241	3.6796E-02	3.5720E-07	8.9258E+17	1.3615E+09
Am-241	2.6611E-05	7.7535E-09	1.9374E+16	9.8462E+05
Cm-242	6.4970E-03	1.9603E-09	4.8782E+15	2.4039E+08
Cm-244	4.5451E-04	5.6180E-09	1.3866E+16	1.6817E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.7781E+22	1.6591E+18
Elemental I (atoms)	3.2403E+18	1.1251E+14
Organic I (atoms)	2.3745E+18	8.2447E+13
Aerosols (kg)	2.7312E-04	9.4833E-09

Dose Effective (Ci) I-131 (Thyroid)	3.0090E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.6511E+02
Total I (Ci)	1.1796E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1500E+22
Elemental I (atoms)	1.1049E+17	1.5048E+18

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Organic I (atoms)      0.0000E+00  1.0685E+18
Aerosols (kg)          1.3876E-03  1.9244E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0621E+22
Elemental I (atoms)    2.3181E+17  1.3167E+18
Organic I (atoms)      0.0000E+00  1.0249E+18
Aerosols (kg)          3.0067E-04  7.4137E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.6646E+21
Elemental I (atoms)    7.4402E+16  4.2261E+17
Organic I (atoms)      0.0000E+00  2.8393E+17
Aerosols (kg)          5.3129E-05  6.5464E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3665E+19
Elemental I (atoms)    2.9780E+15  1.3296E+14
Organic I (atoms)      2.1529E+15  2.9929E+13
Aerosols (kg)          2.5069E-07  1.5846E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6647E+18
Elemental I (atoms)    0.0000E+00  8.4716E+14
Organic I (atoms)      0.0000E+00  4.9209E+14
Aerosols (kg)          0.0000E+00  7.9775E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    4.6838E+19  0.0000E+00
Elemental I (atoms)    9.3133E+14  0.0000E+00
Organic I (atoms)      4.6165E+14  0.0000E+00
Aerosols (kg)          9.3295E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2418E+00  3.8675E+01  5.7375E+00
Accumulated dose (rem)  9.0902E+00  6.7936E+01  1.1954E+01

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1863E-01  5.5629E-01  1.4015E-01
Accumulated dose (rem)  3.6862E-01  2.2759E+00  4.7137E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1752E-01  1.3944E+01  8.6270E-01
Accumulated dose (rem)  9.9206E-01  4.2577E+01  2.8583E+00

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	1.0266E+06	2.6166E+00	1.8538E+25	3.1594E+21
Kr-85m	4.0195E+05	4.8842E-05	3.4604E+20	1.1920E+22
Kr-87	6.9409E+01	2.4504E-09	1.6962E+16	4.8868E+21
Kr-88	1.2897E+05	1.0285E-05	7.0386E+19	1.9489E+22
Rb-86	1.6789E+02	2.0633E-06	1.4448E+19	9.8444E+17
Sr-89	8.4039E+03	2.8927E-04	1.9573E+21	4.3066E+19
Sr-90	1.1573E+03	8.4839E-03	5.6768E+22	5.8769E+18
Sr-91	1.8328E+03	5.0561E-07	3.3460E+18	3.3884E+19
Sr-92	2.3611E+01	1.8784E-09	1.2296E+16	2.0239E+19
Y-90	2.5991E+02	4.7772E-07	3.1965E+18	4.3870E+17
Y-91	1.2745E+02	5.1968E-06	3.4391E+19	5.8301E+17
Y-92	2.2969E+02	2.3871E-08	1.5625E+17	4.2353E+18
Y-93	2.3066E+01	6.9135E-09	4.4768E+16	3.9249E+17
Zr-95	1.2592E+02	5.8615E-06	3.7156E+19	6.4405E+17
Zr-97	4.5704E+01	2.3908E-08	1.4843E+17	4.6608E+17
Nb-95	1.2694E+02	3.2463E-06	2.0578E+19	6.4463E+17
Mo-99	1.2446E+03	2.5950E-06	1.5785E+19	7.4937E+18
Tc-99m	1.2470E+03	2.3715E-07	1.4426E+18	6.8334E+18
Ru-103	1.3818E+03	4.2814E-05	2.5032E+20	7.0994E+18
Ru-105	2.3994E+01	3.5695E-09	2.0473E+16	2.3920E+18
Ru-106	6.3316E+02	1.8925E-04	1.0752E+21	3.2192E+18
Rh-105	6.8454E+02	8.1101E-07	4.6514E+18	4.4774E+18
Sb-127	1.3533E+03	5.0677E-06	2.4030E+19	7.7565E+18
Sb-129	1.0600E+02	1.8851E-08	8.8001E+16	1.1580E+19
Te-127	1.5103E+03	5.7228E-07	2.7137E+18	7.9142E+18
Te-127m	2.7447E+02	2.9098E-05	1.3798E+20	1.3940E+18
Te-129	9.1485E+02	4.3684E-08	2.0393E+17	1.3844E+19
Te-129m	8.8583E+02	2.9405E-05	1.3727E+20	4.5472E+18
Te-131m	1.9364E+03	2.4284E-06	1.1163E+19	1.4414E+19
Te-132	1.9399E+04	6.3898E-05	2.9152E+20	1.1369E+20
I-131	1.0802E+05	8.7129E-04	4.0053E+21	5.6247E+20
I-132	2.3216E+04	2.2491E-06	1.0261E+19	4.4996E+20
I-133	1.0990E+05	9.7012E-05	4.3926E+20	9.4460E+20
I-134	1.6087E-03	6.0304E-14	2.7102E+11	2.7206E+20
I-135	1.8628E+04	5.3043E-06	2.3662E+19	6.2391E+20
Xe-133	8.5605E+07	4.5734E-01	2.0708E+24	2.8084E+23
Xe-135	8.9521E+06	3.5055E-03	1.5637E+22	7.4812E+22
Cs-134	1.9955E+04	1.5423E-02	6.9314E+22	1.1407E+20
Cs-136	5.5406E+03	7.5597E-05	3.3475E+20	3.2851E+19
Cs-137	1.6087E+04	1.8494E-01	8.1296E+23	9.1903E+19
Ba-139	7.4296E-02	4.5422E-12	1.9679E+13	1.5947E+19
Ba-140	1.1914E+04	1.6274E-04	7.0005E+20	6.2734E+19
La-140	4.0168E+03	7.2266E-06	3.1086E+19	6.7632E+18
La-141	1.7177E+00	3.0374E-10	1.2973E+15	2.6312E+17
La-142	2.3929E-03	1.6716E-13	7.0891E+11	1.5455E+17
Ce-141	2.9069E+02	1.0202E-05	4.3573E+19	1.4958E+18
Ce-143	1.7515E+02	2.6374E-07	1.1107E+18	1.2577E+18
Ce-144	2.3723E+02	7.4378E-05	3.1105E+20	1.2066E+18
Pr-143	1.1937E+02	1.7727E-06	7.4653E+18	5.8893E+17
Nd-147	4.3429E+01	5.3683E-07	2.1992E+18	2.3001E+17
Np-239	2.5742E+03	1.1096E-05	2.7959E+19	1.5958E+19
Pu-238	1.0537E+00	6.1547E-05	1.5573E+20	5.3502E+15
Pu-239	9.1948E-02	1.4793E-03	3.7274E+21	4.6613E+14
Pu-240	1.7040E-01	7.4781E-04	1.8764E+21	8.6531E+14
Pu-241	3.6481E+01	3.5415E-04	8.8494E+20	1.8527E+17
Am-241	2.6520E-02	7.7270E-06	1.9308E+19	1.3413E+14
Cm-242	6.4191E+00	1.9368E-06	4.8197E+18	3.2689E+16
Cm-244	4.5064E-01	5.5701E-06	1.3748E+19	2.2885E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	2.0625E+25	0.0000E+00
Elemental I (atoms)	4.8347E+20	5.6172E+22

```
Organic I (atoms)      8.3899E+20  0.0000E+00
Aerosols (kg)          2.1322E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.7205E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1961E-05
Total I (Ci)                                   2.5976E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0901E+23
Elemental I (atoms)    0.0000E+00  3.9977E+18
Organic I (atoms)      0.0000E+00  4.9406E+18
Aerosols (kg)          0.0000E+00  2.6471E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0901E+23
Elemental I (atoms)    0.0000E+00  3.9977E+18
Organic I (atoms)      0.0000E+00  4.9406E+18
Aerosols (kg)          0.0000E+00  2.6471E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.4644E+22
Elemental I (atoms)    0.0000E+00  2.0013E+18
Organic I (atoms)      0.0000E+00  2.4764E+18
Aerosols (kg)          0.0000E+00  1.3238E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3693E+26
Elemental I (atoms)    0.0000E+00  2.0485E+22
Organic I (atoms)      0.0000E+00  2.8655E+22
Aerosols (kg)          0.0000E+00  1.2051E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.2300E+26
Elemental I (atoms)    0.0000E+00  2.0059E+22
Organic I (atoms)      0.0000E+00  2.7956E+22
Aerosols (kg)          0.0000E+00  1.1926E+01
```

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	8.1701E-03	2.5694E-10	2.6678E+15	3.0229E+08
Co-60	9.8119E-03	8.6802E-09	8.7122E+16	3.6304E+08
Kr-85	1.1092E+04	2.8272E-02	2.0031E+23	4.1041E+14
Kr-85m	3.1616E+04	3.8417E-06	2.7218E+19	1.1698E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4559E+04	3.5535E-06	2.4318E+19	1.6487E+15
Rb-86	3.5091E-01	4.3127E-09	3.0200E+16	1.2984E+10
Sr-89	1.4663E+01	5.0470E-07	3.4150E+18	5.4252E+11
Sr-90	2.0016E+00	1.4674E-05	9.8187E+19	7.4060E+10
Sr-91	1.0759E+01	2.9681E-09	1.9642E+16	3.9810E+11
Sr-92	4.9913E+00	3.9710E-10	2.5993E+15	1.8468E+11
Y-90	1.6795E-01	3.0869E-10	2.0655E+15	6.2141E+09
Y-91	2.0112E-01	8.2010E-09	5.4272E+16	7.4415E+09

Y-92	2.6427E+00	2.7464E-10	1.7977E+15	9.7778E+10
Y-93	1.2528E-01	3.7551E-11	2.4316E+14	4.6355E+09
Zr-95	2.1930E-01	1.0208E-08	6.4709E+16	8.1139E+09
Zr-97	1.5341E-01	8.0247E-11	4.9820E+14	5.6760E+09
Nb-95	2.1958E-01	5.6155E-09	3.5597E+16	8.1246E+09
Mo-99	2.5338E+00	5.2830E-09	3.2137E+16	9.3752E+10
Tc-99m	2.3643E+00	4.4964E-10	2.7351E+15	8.7479E+10
Ru-103	2.4169E+00	7.4887E-08	4.3784E+17	8.9425E+10
Ru-105	6.7861E-01	1.0095E-10	5.7901E+14	2.5109E+10
Ru-106	1.0964E+00	3.2772E-07	1.8618E+18	4.0567E+10
Rh-105	1.5217E+00	1.8029E-09	1.0340E+16	5.6305E+10
Sb-127	2.6285E+00	9.8425E-09	4.6671E+16	9.7253E+10
Sb-129	3.2650E+00	5.8061E-10	2.7105E+15	1.2081E+11
Te-127	2.7258E+00	1.0328E-09	4.8976E+15	1.0085E+11
Te-127m	4.7480E-01	5.0336E-08	2.3868E+17	1.7567E+10
Te-129	4.4157E+00	2.1085E-10	9.8432E+14	1.6338E+11
Te-129m	1.5487E+00	5.1409E-08	2.4000E+17	5.7303E+10
Te-131m	4.8247E+00	6.0505E-09	2.7814E+16	1.7851E+11
Te-132	3.8489E+01	1.2678E-07	5.7839E+17	1.4241E+12
I-131	5.4815E+02	4.4215E-06	2.0326E+19	2.0282E+13
I-132	2.5005E+02	2.4224E-08	1.1052E+17	9.2518E+12
I-133	8.3447E+02	7.3664E-07	3.3354E+18	3.0875E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.3753E+02	1.2459E-07	5.5576E+17	1.6189E+13
Xe-133	9.7697E+05	5.2194E-03	2.3633E+22	3.6148E+16
Xe-135	2.2915E+05	8.9730E-05	4.0027E+20	8.4784E+15
Cs-134	4.0701E+01	3.1458E-05	1.4138E+20	1.5059E+12
Cs-136	1.1705E+01	1.5971E-07	7.0718E+17	4.3308E+11
Cs-137	3.2792E+01	3.7700E-04	1.6572E+21	1.2133E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	2.1335E+01	2.9143E-07	1.2536E+18	7.8941E+11
La-140	2.6210E+00	4.7154E-09	2.0283E+16	9.6975E+10
La-141	7.2522E-02	1.2824E-11	5.4770E+13	2.6833E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	5.0926E-01	1.7873E-08	7.6335E+16	1.8843E+10
Ce-143	4.2175E-01	6.3509E-10	2.6745E+15	1.5605E+10
Ce-144	4.1093E-01	1.2884E-07	5.3881E+17	1.5205E+10
Pr-143	2.0115E-01	2.9872E-09	1.2580E+16	7.4426E+09
Nd-147	7.8207E-02	9.6672E-10	3.9604E+15	2.8936E+09
Np-239	5.3886E+00	2.3227E-08	5.8527E+16	1.9938E+11
Pu-238	1.8222E-03	1.0644E-07	2.6933E+17	6.7423E+07
Pu-239	1.5878E-04	2.5545E-06	6.4366E+18	5.8748E+06
Pu-240	2.9472E-04	1.2934E-06	3.2454E+18	1.0905E+07
Pu-241	6.3102E-02	6.1256E-07	1.5307E+18	2.3348E+09
Am-241	4.5693E-05	1.3313E-08	3.3267E+16	1.6906E+06
Cm-242	1.1132E-02	3.3589E-09	8.3585E+15	4.1189E+08
Cm-244	7.7945E-04	9.6344E-09	2.3779E+16	2.8840E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.2439E+23	2.5971E+18
Elemental I (atoms)	7.1182E+18	8.2387E+13
Organic I (atoms)	9.9726E+18	1.1542E+14
Aerosols (kg)	4.3114E-04	4.9900E-09

Dose Effective (Ci) I-131 (Thyroid)	7.0127E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.1773E+02
Total I (Ci)	2.1357E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3267E+22
Elemental I (atoms)	2.8316E+17	3.2276E+18
Organic I (atoms)	0.0000E+00	4.1737E+18

```
Aerosols (kg)          2.1848E-03  3.0301E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3106E+22
Elemental I (atoms)    5.8184E+17  2.7498E+18
Organic I (atoms)      0.0000E+00  4.1604E+18
Aerosols (kg)          4.6393E-04  1.1439E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.8113E+22
Elemental I (atoms)    2.5637E+17  1.1676E+18
Organic I (atoms)      0.0000E+00  1.6883E+18
Aerosols (kg)          1.1155E-04  1.3745E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1106E+20
Elemental I (atoms)    4.4510E+15  1.4784E+14
Organic I (atoms)      5.0397E+15  5.9089E+13
Aerosols (kg)          3.1036E-07  1.6449E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.4455E+19
Elemental I (atoms)    0.0000E+00  1.1737E+15
Organic I (atoms)      0.0000E+00  1.1320E+15
Aerosols (kg)          0.0000E+00  9.3002E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.3221E+20  0.0000E+00
Elemental I (atoms)    1.2996E+15  0.0000E+00
Organic I (atoms)      1.1586E+15  0.0000E+00
Aerosols (kg)          1.0900E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1177E+00  2.3172E+01  2.0186E+00
Accumulated dose (rem)  1.0208E+01  9.1108E+01  1.3973E+01

Low Population Zone Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2023E-02  1.6380E-01  1.8391E-02
Accumulated dose (rem)  3.8065E-01  2.4397E+00  4.8976E-01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.3116E-02  3.3082E+00  1.6153E-01
Accumulated dose (rem)  1.0252E+00  4.5885E+01  3.0198E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	1.0224E+06	2.6059E+00	1.8462E+25	6.4342E+21
Kr-85m	9.7677E+03	1.1869E-06	8.4091E+18	1.2257E+22
Kr-87	1.4401E-04	5.0842E-15	3.5193E+10	4.8868E+21
Kr-88	3.6716E+02	2.9281E-08	2.0038E+17	1.9560E+22
Rb-86	1.6113E+02	1.9803E-06	1.3867E+19	1.5102E+18
Sr-89	8.2567E+03	2.8420E-04	1.9230E+21	6.9694E+19
Sr-90	1.1526E+03	8.4499E-03	5.6541E+22	9.5688E+18
Sr-91	3.1689E+02	8.7419E-08	5.7851E+17	3.6645E+19
Sr-92	5.0751E-02	4.0376E-12	2.6430E+13	2.0252E+19
Y-90	4.6490E+02	8.5449E-07	5.7176E+18	1.5918E+18
Y-91	1.2970E+02	5.2889E-06	3.5001E+19	9.9564E+17
Y-92	2.6719E+00	2.7767E-10	1.8176E+15	4.4018E+18
Y-93	4.4252E+00	1.3264E-09	8.5888E+15	4.2858E+17
Zr-95	1.2407E+02	5.7754E-06	3.6611E+19	1.0436E+18
Zr-97	1.7011E+01	8.8987E-09	5.5247E+16	5.5889E+17
Nb-95	1.2638E+02	3.2320E-06	2.0488E+19	1.0494E+18
Mo-99	9.6350E+02	2.0089E-06	1.2220E+19	1.1004E+19
Tc-99m	9.8600E+02	1.8751E-07	1.1406E+18	1.0219E+19
Ru-103	1.3523E+03	4.1899E-05	2.4497E+20	1.1469E+19
Ru-105	5.6391E-01	8.3889E-11	4.8114E+14	2.4119E+18
Ru-106	6.2948E+02	1.8815E-04	1.0689E+21	5.2373E+18
Rh-105	4.2804E+02	5.0712E-07	2.9085E+18	6.2255E+18
Sb-127	1.1259E+03	4.2160E-06	1.9992E+19	1.1708E+19
Sb-129	2.2450E+00	3.9923E-10	1.8637E+15	1.1666E+19
Te-127	1.3352E+03	5.0592E-07	2.3990E+18	1.2316E+19
Te-127m	2.7306E+02	2.8949E-05	1.3727E+20	2.2690E+18
Te-129	7.5065E+02	3.5844E-08	1.6733E+17	1.5765E+19
Te-129m	8.6444E+02	2.8695E-05	1.3396E+20	7.3446E+18
Te-131m	1.1078E+03	1.3892E-06	6.3864E+18	1.9157E+19
Te-132	1.5620E+04	5.1450E-05	2.3473E+20	1.6944E+20
I-131	9.8800E+04	7.9693E-04	3.6635E+21	8.9281E+20
I-132	1.8644E+04	1.8062E-06	8.2403E+18	5.0770E+20
I-133	4.9195E+04	4.3428E-05	1.9664E+20	1.1860E+21
I-135	1.4978E+03	4.2650E-07	1.9025E+18	6.4564E+20
Xe-133	7.4721E+07	3.9919E-01	1.8075E+24	5.3670E+23
Xe-135	1.4337E+06	5.6142E-04	2.5044E+21	8.7934E+22
Cs-134	1.9858E+04	1.5348E-02	6.8978E+22	1.7771E+20
Cs-136	5.2343E+03	7.1418E-05	3.1624E+20	5.0068E+19
Cs-137	1.6022E+04	1.8420E-01	8.0970E+23	1.4322E+20
Ba-139	4.2425E-07	2.5937E-17	1.1237E+08	1.5947E+19
Ba-140	1.1239E+04	1.5352E-04	6.6036E+20	9.9729E+19
La-140	6.5819E+03	1.1842E-05	5.0937E+19	2.3742E+19
La-141	2.4825E-02	4.3897E-12	1.8748E+13	2.6440E+17
La-142	4.9080E-08	3.4285E-18	1.4540E+07	1.5455E+17
Ce-141	2.8345E+02	9.9478E-06	4.2487E+19	2.4134E+18
Ce-143	1.0538E+02	1.5868E-07	6.6826E+17	1.6967E+18
Ce-144	2.3572E+02	7.3904E-05	3.0907E+20	1.9625E+18
Pr-143	1.1980E+02	1.7790E-06	7.4919E+18	9.7167E+17
Nd-147	4.0611E+01	5.0200E-07	2.0566E+18	3.6428E+17
Np-239	1.9103E+03	8.2343E-06	2.0748E+19	2.3072E+19
Pu-238	1.0496E+00	6.1311E-05	1.5514E+20	8.7118E+15
Pu-239	9.1760E-02	1.4763E-03	3.7198E+21	7.5976E+14
Pu-240	1.6973E-01	7.4487E-04	1.8690E+21	1.4089E+15
Pu-241	3.6333E+01	3.5270E-04	8.8134E+20	3.0165E+17
Am-241	2.6575E-02	7.7430E-06	1.9348E+19	2.1898E+14
Cm-242	6.3666E+00	1.9210E-06	4.7803E+18	5.3124E+16
Cm-244	4.4881E-01	5.5476E-06	1.3692E+19	3.7261E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	2.0272E+25	0.0000E+00
Elemental I (atoms)	4.1781E+20	5.6172E+22
Organic I (atoms)	7.2505E+20	0.0000E+00
Aerosols (kg)	2.1223E-01	6.1246E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         3.9828E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.1912E-05
Total I (Ci)                                   1.6814E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6326E+23
Elemental I (atoms)    0.0000E+00  5.1901E+18
Organic I (atoms)      0.0000E+00  7.0099E+18
Aerosols (kg)          0.0000E+00  3.2114E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6326E+23
Elemental I (atoms)    0.0000E+00  5.1901E+18
Organic I (atoms)      0.0000E+00  7.0099E+18
Aerosols (kg)          0.0000E+00  3.2114E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.1612E+22
Elemental I (atoms)    0.0000E+00  2.5941E+18
Organic I (atoms)      0.0000E+00  3.5051E+18
Aerosols (kg)          0.0000E+00  1.6043E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2879E+27
Elemental I (atoms)    0.0000E+00  3.4794E+22
Organic I (atoms)      0.0000E+00  5.3487E+22
Aerosols (kg)          0.0000E+00  1.8822E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2740E+27
Elemental I (atoms)    0.0000E+00  3.4369E+22
Organic I (atoms)      0.0000E+00  5.2790E+22
Aerosols (kg)          0.0000E+00  1.8698E+01

Environment Integral Nuclide Release:

Time (h) =  48.0000       Ci           kg         Atoms         Bq
Co-58                  1.0325E-02  3.2471E-10  3.3715E+15  3.8203E+08
Co-60                  1.2429E-02  1.0995E-08  1.1036E+17  4.5986E+08
Kr-85                  1.7875E+04  4.5561E-02  3.2279E+23  6.6138E+14
Kr-85m                 3.2260E+04  3.9201E-06  2.7773E+19  1.1936E+15
Kr-87                  7.8107E+03  2.7575E-07  1.9087E+18  2.8900E+14
Kr-88                  4.4687E+04  3.5637E-06  2.4388E+19  1.6534E+15
Rb-86                  4.2695E-01  5.2472E-09  3.6744E+16  1.5797E+10
Sr-89                  1.8513E+01  6.3723E-07  4.3118E+18  6.8498E+11
Sr-90                  2.5356E+00  1.8589E-05  1.2438E+20  9.3818E+10
Sr-91                  1.1145E+01  3.0744E-09  2.0345E+16  4.1235E+11
Sr-92                  4.9928E+00  3.9722E-10  2.6001E+15  1.8473E+11
Y-90                   3.3959E-01  6.2417E-10  4.1765E+15  1.2565E+10
Y-91                   2.6087E-01  1.0637E-08  7.0396E+16  9.6523E+09
Y-92                   2.6648E+00  2.7694E-10  1.8128E+15  9.8599E+10
Y-93                   1.3033E-01  3.9064E-11  2.5295E+14  4.8222E+09
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Zr-95	2.7707E-01	1.2897E-08	8.1758E+16	1.0252E+10
Zr-97	1.6656E-01	8.7128E-11	5.4092E+14	6.1627E+09
Nb-95	2.7815E-01	7.1131E-09	4.5091E+16	1.0291E+10
Mo-99	3.0389E+00	6.3361E-09	3.8542E+16	1.1244E+11
Tc-99m	2.8778E+00	5.4730E-10	3.3292E+15	1.0648E+11
Ru-103	3.0487E+00	9.4462E-08	5.5229E+17	1.1280E+11
Ru-105	6.8128E-01	1.0135E-10	5.8129E+14	2.5207E+10
Ru-106	1.3883E+00	4.1496E-07	2.3575E+18	5.1366E+10
Rh-105	1.7722E+00	2.0996E-09	1.2042E+16	6.5572E+10
Sb-127	3.1979E+00	1.1975E-08	5.6782E+16	1.1832E+11
Sb-129	3.2765E+00	5.8266E-10	2.7200E+15	1.2123E+11
Te-127	3.3832E+00	1.2819E-09	6.0787E+15	1.2518E+11
Te-127m	6.0138E-01	6.3755E-08	3.0232E+17	2.2251E+10
Te-129	4.7816E+00	2.2832E-10	1.0659E+15	1.7692E+11
Te-129m	1.9532E+00	6.4835E-08	3.0267E+17	7.2267E+10
Te-131m	5.5029E+00	6.9010E-09	3.1724E+16	2.0361E+11
Te-132	4.6518E+01	1.5322E-07	6.9904E+17	1.7212E+12
I-131	7.6196E+02	6.1461E-06	2.8254E+19	2.8193E+13
I-132	2.8100E+02	2.7223E-08	1.2420E+17	1.0397E+13
I-133	9.8842E+02	8.7254E-07	3.9508E+18	3.6572E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5089E+02	1.2839E-07	5.7274E+17	1.6683E+13
Xe-133	1.5054E+06	8.0425E-03	3.6416E+22	5.5700E+16
Xe-135	2.5528E+05	9.9964E-05	4.4592E+20	9.4453E+15
Cs-134	4.9911E+01	3.8576E-05	1.7337E+20	1.8467E+12
Cs-136	1.4194E+01	1.9367E-07	8.5756E+17	5.2518E+11
Cs-137	4.0219E+01	4.6239E-04	2.0325E+21	1.4881E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	2.6680E+01	3.6444E-07	1.5677E+18	9.8717E+11
La-140	5.1475E+00	9.2609E-09	3.9836E+16	1.9046E+11
La-141	7.2691E-02	1.2853E-11	5.4898E+13	2.6896E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	6.4192E-01	2.2529E-08	9.6221E+16	2.3751E+10
Ce-143	4.8459E-01	7.2971E-10	3.0730E+15	1.7930E+10
Ce-144	5.2026E-01	1.6312E-07	6.8216E+17	1.9250E+10
Pr-143	2.5659E-01	3.8104E-09	1.6047E+16	9.4937E+09
Nd-147	9.7602E-02	1.2065E-09	4.9426E+15	3.6113E+09
Np-239	6.4114E+00	2.7637E-08	6.9637E+16	2.3722E+11
Pu-238	2.3085E-03	1.3484E-07	3.4119E+17	8.5413E+07
Pu-239	2.0125E-04	3.2378E-06	8.1583E+18	7.4462E+06
Pu-240	3.7335E-04	1.6384E-06	4.1112E+18	1.3814E+07
Pu-241	7.9934E-02	7.7597E-07	1.9390E+18	2.9576E+09
Am-241	5.7969E-05	1.6890E-08	4.2205E+16	2.1448E+06
Cm-242	1.4088E-02	4.2506E-09	1.0578E+16	5.2125E+08
Cm-244	9.8738E-04	1.2205E-08	3.0122E+16	3.6533E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.5971E+23	2.0816E+18	
Elemental I (atoms)	9.2132E+18	5.3317E+13	
Organic I (atoms)	1.5103E+19	8.7403E+13	
Aerosols (kg)	5.2955E-04	3.0645E-09	
Dose Effective (Ci) I-131 (Thyroid)			9.4128E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.0749E+03
Total I (Ci)			2.5478E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4750E+23
Elemental I (atoms)	4.7034E+17	4.2334E+18
Organic I (atoms)	0.0000E+00	6.2425E+18
Aerosols (kg)	2.6816E-03	3.7191E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4735E+23
Elemental I (atoms)	9.3014E+17	3.4812E+18
Organic I (atoms)	0.0000E+00	6.2288E+18
Aerosols (kg)	5.6923E-04	1.4036E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5024E+22
Elemental I (atoms)	4.3311E+17	1.5388E+18
Organic I (atoms)	0.0000E+00	2.7142E+18
Aerosols (kg)	1.4034E-04	1.7292E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4511E+20
Elemental I (atoms)	4.9759E+15	1.5315E+14
Organic I (atoms)	6.3250E+15	7.2072E+13
Aerosols (kg)	3.3486E-07	1.6697E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1926E+19
Elemental I (atoms)	0.0000E+00	1.2900E+15
Organic I (atoms)	0.0000E+00	1.4169E+15
Aerosols (kg)	0.0000E+00	9.8433E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.7575E+20	0.0000E+00
Elemental I (atoms)	1.4292E+15	0.0000E+00
Organic I (atoms)	1.4719E+15	0.0000E+00
Aerosols (kg)	1.1495E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3360E-01	1.8428E+01	1.4848E+00
Accumulated dose (rem)	1.0942E+01	1.0954E+02	1.5458E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.8914E-03	1.3026E-01	1.3201E-02
Accumulated dose (rem)	3.8854E-01	2.5700E+00	5.0297E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9970E-02	2.4599E+00	1.2018E-01
Accumulated dose (rem)	1.0451E+00	4.8345E+01	3.1400E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	1.0181E+06	2.5950E+00	1.8386E+25	9.6955E+21
Kr-85m	2.3736E+02	2.8842E-08	2.0434E+17	1.2265E+22
Kr-87	2.9879E-10	1.0549E-20	7.3017E+04	4.8868E+21
Kr-88	1.0452E+00	8.3357E-11	5.7044E+14	1.9560E+22
Rb-86	1.5464E+02	1.9005E-06	1.3308E+19	2.0148E+18
Sr-89	8.1118E+03	2.7921E-04	1.8893E+21	9.5855E+19
Sr-90	1.1480E+03	8.4158E-03	5.6312E+22	1.3246E+19
Sr-91	5.4788E+01	1.5114E-08	1.0002E+17	3.7122E+19
Sr-92	1.0908E-04	8.6786E-15	5.6808E+10	2.0252E+19
Y-90	6.2126E+02	1.1419E-06	7.6407E+18	3.3192E+18
Y-91	1.2840E+02	5.2358E-06	3.4649E+19	1.4084E+18
Y-92	2.5489E-02	2.6489E-12	1.7339E+13	4.4036E+18
Y-93	8.4895E-01	2.5446E-10	1.6477E+15	4.3550E+17
Zr-95	1.2225E+02	5.6905E-06	3.6073E+19	1.4373E+18
Zr-97	6.3316E+00	3.3121E-09	2.0563E+16	5.9343E+17
Nb-95	1.2580E+02	3.2171E-06	2.0393E+19	1.4522E+18
Mo-99	7.4586E+02	1.5551E-06	9.4597E+18	1.3721E+19
Tc-99m	7.6457E+02	1.4540E-07	8.8449E+17	1.2862E+19
Ru-103	1.3233E+03	4.1003E-05	2.3973E+20	1.5745E+19
Ru-105	1.3252E-02	1.9715E-12	1.1307E+13	2.4124E+18
Ru-106	6.2580E+02	1.8705E-04	1.0627E+21	7.2436E+18
Rh-105	2.6639E+02	3.1560E-07	1.8101E+18	7.3151E+18
Sb-127	9.3666E+02	3.5074E-06	1.6632E+19	1.4995E+19
Sb-129	4.7545E-02	8.4548E-12	3.9470E+13	1.1668E+19
Te-127	1.1615E+03	4.4011E-07	2.0869E+18	1.6168E+19
Te-127m	2.7142E+02	2.8775E-05	1.3645E+20	3.1392E+18
Te-129	7.2939E+02	3.4828E-08	1.6259E+17	1.7544E+19
Te-129m	8.4343E+02	2.7997E-05	1.3070E+20	1.0074E+19
Te-131m	6.3372E+02	7.9473E-07	3.6534E+18	2.1870E+19
Te-132	1.2576E+04	4.1426E-05	1.8899E+20	2.1433E+20
I-131	9.0333E+04	7.2864E-04	3.3496E+21	1.1949E+21
I-132	1.5011E+04	1.4543E-06	6.6348E+18	5.5416E+20
I-133	2.2022E+04	1.9440E-05	8.8023E+19	1.2941E+21
I-135	1.2043E+02	3.4292E-08	1.5297E+17	6.4738E+20
Xe-133	6.5215E+07	3.4840E-01	1.5775E+24	7.6001E+23
Xe-135	2.2933E+05	8.9803E-05	4.0060E+20	9.0034E+22
Cs-134	1.9761E+04	1.5273E-02	6.8640E+22	2.4103E+20
Cs-136	4.9448E+03	6.7468E-05	2.9875E+20	6.6332E+19
Cs-137	1.5958E+04	1.8346E-01	8.0643E+23	1.9433E+20
Ba-140	1.0601E+04	1.4481E-04	6.2291E+20	1.3463E+20
La-140	8.0491E+03	1.4481E-05	6.2291E+19	4.7058E+19
La-141	3.5876E-04	6.3438E-14	2.7094E+11	2.6442E+17
Ce-141	2.7636E+02	9.6992E-06	4.1425E+19	3.3081E+18
Ce-143	6.3401E+01	9.5471E-08	4.0206E+17	1.9608E+18
Ce-144	2.3421E+02	7.3431E-05	3.0709E+20	2.7136E+18
Pr-143	1.1748E+02	1.7446E-06	7.3469E+18	1.3512E+18
Nd-147	3.7975E+01	4.6942E-07	1.9231E+18	4.8984E+17
Np-239	1.4176E+03	6.1105E-06	1.5397E+19	2.8352E+19
Pu-238	1.0456E+00	6.1074E-05	1.5454E+20	1.2061E+16
Pu-239	9.1526E-02	1.4725E-03	3.7103E+21	1.0527E+15
Pu-240	1.6906E-01	7.4191E-04	1.8616E+21	1.9504E+15
Pu-241	3.6184E+01	3.5125E-04	8.7772E+20	4.1755E+17
Am-241	2.6628E-02	7.7584E-06	1.9387E+19	3.0400E+14
Cm-242	6.3144E+00	1.9052E-06	4.7411E+18	7.3391E+16
Cm-244	4.4698E-01	5.5249E-06	1.3636E+19	5.1578E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9963E+25	0.0000E+00	
Elemental I (atoms)	3.7183E+20	5.6172E+22	
Organic I (atoms)	6.4526E+20	0.0000E+00	
Aerosols (kg)	2.1127E-01	6.1246E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4977E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5973E-05
Total I (Ci)			1.2749E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1663E+23
Elemental I (atoms)	0.0000E+00	6.2371E+18
Organic I (atoms)	0.0000E+00	8.8268E+18
Aerosols (kg)	0.0000E+00	3.7731E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1663E+23
Elemental I (atoms)	0.0000E+00	6.2371E+18
Organic I (atoms)	0.0000E+00	8.8268E+18
Aerosols (kg)	0.0000E+00	3.7731E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0814E+23
Elemental I (atoms)	0.0000E+00	3.1146E+18
Organic I (atoms)	0.0000E+00	4.4084E+18
Aerosols (kg)	0.0000E+00	1.8835E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9283E+27
Elemental I (atoms)	0.0000E+00	4.7357E+22
Organic I (atoms)	0.0000E+00	7.5290E+22
Aerosols (kg)	0.0000E+00	2.5563E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9145E+27
Elemental I (atoms)	0.0000E+00	4.6934E+22
Organic I (atoms)	0.0000E+00	7.4594E+22
Aerosols (kg)	0.0000E+00	2.5439E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	2.4642E+04	6.2808E-02	4.4499E+23	9.1174E+14
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	4.9977E-01	6.1421E-09	4.3010E+16	1.8491E+10
Sr-89	2.2290E+01	7.6723E-07	5.1914E+18	8.2472E+11
Sr-90	3.0666E+00	2.2481E-05	1.5043E+20	1.1346E+11
Sr-91	1.1211E+01	3.0927E-09	2.0467E+16	4.1481E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	5.9343E-01	1.0907E-09	7.2984E+15	2.1957E+10
Y-91	3.2048E-01	1.3068E-08	8.6482E+16	1.1858E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3130E-01	3.9353E-11	2.5483E+14	4.8579E+09
Zr-95	3.3391E-01	1.5543E-08	9.8529E+16	1.2355E+10
Zr-97	1.7145E-01	8.9684E-11	5.5679E+14	6.3435E+09
Nb-95	3.3635E-01	8.6016E-09	5.4526E+16	1.2445E+10
Mo-99	3.4292E+00	7.1499E-09	4.3493E+16	1.2688E+11

Tc-99m	3.2777E+00	6.2335E-10	3.7918E+15	1.2128E+11
Ru-103	3.6659E+00	1.1359E-07	6.6412E+17	1.3564E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	1.6780E+00	5.0155E-07	2.8495E+18	6.2085E+10
Rh-105	1.9280E+00	2.2842E-09	1.3101E+16	7.1337E+10
Sb-127	3.6708E+00	1.3746E-08	6.5180E+16	1.3582E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	3.9570E+00	1.4994E-09	7.1097E+15	1.4641E+11
Te-127m	7.2705E-01	7.7078E-08	3.6549E+17	2.6901E+10
Te-129	5.1226E+00	2.4461E-10	1.1419E+15	1.8954E+11
Te-129m	2.3472E+00	7.7913E-08	3.6372E+17	8.6845E+10
Te-131m	5.8902E+00	7.3867E-09	3.3957E+16	2.1794E+11
Te-132	5.2972E+01	1.7448E-07	7.9603E+17	1.9599E+12
I-131	9.4230E+02	7.6007E-06	3.4941E+19	3.4865E+13
I-132	3.0417E+02	2.9468E-08	1.3444E+17	1.1254E+13
I-133	1.0520E+03	9.2866E-07	4.2049E+18	3.8924E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5188E+02	1.2867E-07	5.7400E+17	1.6720E+13
Xe-133	1.9675E+06	1.0511E-02	4.7593E+22	7.2797E+16
Xe-135	2.5947E+05	1.0161E-04	4.5325E+20	9.6005E+15
Cs-134	5.9055E+01	4.5644E-05	2.0513E+20	2.1850E+12
Cs-136	1.6540E+01	2.2568E-07	9.9932E+17	6.1199E+11
Cs-137	4.7601E+01	5.4725E-04	2.4056E+21	1.7612E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	3.1714E+01	4.3320E-07	1.8634E+18	1.1734E+12
La-140	8.5723E+00	1.5423E-08	6.6341E+16	3.1717E+11
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	7.7106E-01	2.7061E-08	1.1558E+17	2.8529E+10
Ce-143	5.2232E-01	7.8654E-10	3.3123E+15	1.9326E+10
Ce-144	6.2871E-01	1.9712E-07	8.2436E+17	2.3262E+10
Pr-143	3.1141E-01	4.6245E-09	1.9475E+16	1.1522E+10
Nd-147	1.1571E-01	1.4303E-09	5.8595E+15	4.2812E+09
Np-239	7.1692E+00	3.0903E-08	7.7867E+16	2.6526E+11
Pu-238	2.7920E-03	1.6309E-07	4.1267E+17	1.0331E+08
Pu-239	2.4355E-04	3.9184E-06	9.8733E+18	9.0115E+06
Pu-240	4.5154E-04	1.9816E-06	4.9723E+18	1.6707E+07
Pu-241	9.6671E-02	9.3844E-07	2.3450E+18	3.5768E+09
Am-241	7.0250E-05	2.0468E-08	5.1146E+16	2.5992E+06
Cm-242	1.7014E-02	5.1336E-09	1.2775E+16	6.2953E+08
Cm-244	1.1941E-03	1.4760E-08	3.6429E+16	4.4183E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.9309E+23	1.9023E+18
Elemental I (atoms)	1.0464E+19	4.0370E+13
Organic I (atoms)	1.9622E+19	7.5701E+13
Aerosols (kg)	6.2729E-04	2.4201E-09
Dose Effective (Ci) I-131 (Thyroid)		1.1324E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.2732E+03
Total I (Ci)		2.8159E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0093E+23
Elemental I (atoms)	8.0092E+17	4.9509E+18
Organic I (atoms)	0.0000E+00	8.0614E+18
Aerosols (kg)	3.1754E-03	4.4041E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.0078E+23
Elemental I (atoms)    1.4151E+18  3.8386E+18
Organic I (atoms)      0.0000E+00  8.0472E+18
Aerosols (kg)          6.7411E-04  1.6622E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1607E+22
Elemental I (atoms)    6.8037E+17  1.7210E+18
Organic I (atoms)      0.0000E+00  3.6186E+18
Aerosols (kg)          1.6787E-04  2.0685E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7866E+20
Elemental I (atoms)    5.2888E+15  1.5631E+14
Organic I (atoms)      7.4556E+15  8.3492E+13
Aerosols (kg)          3.5919E-07  1.6942E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9289E+19
Elemental I (atoms)    0.0000E+00  1.3594E+15
Organic I (atoms)      0.0000E+00  1.6675E+15
Aerosols (kg)          0.0000E+00  1.0383E-07

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    2.1667E+20  0.0000E+00
Elemental I (atoms)    1.5026E+15  0.0000E+00
Organic I (atoms)      1.7339E+15  0.0000E+00
Aerosols (kg)          1.2060E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0345E-01  1.5049E+01  1.2490E+00
Accumulated dose (rem)  1.1545E+01  1.2458E+02  1.6707E+01

Low Population Zone Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.4913E-03  1.0638E-01  1.1054E-02
Accumulated dose (rem)  3.9503E-01  2.6763E+00  5.1402E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6442E-02  2.0090E+00  1.0255E-01
Accumulated dose (rem)  1.0616E+00  5.0354E+01  3.2426E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.5046E+00  1.4166E-07  1.4709E+18  6.8096E+16
Co-60                  5.5986E+00  4.9528E-06  4.9711E+19  8.2848E+16
Kr-85                  1.0139E+06  2.5843E+00  1.8309E+25  1.2943E+22
Kr-85m                 5.7678E+00  7.0087E-10  4.9656E+15  1.2265E+22
Kr-88                  2.9755E-03  2.3730E-13  1.6239E+12  1.9560E+22
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Rb-86	1.4841E+02	1.8239E-06	1.2772E+19	2.4991E+18
Sr-89	7.9694E+03	2.7431E-04	1.8561E+21	1.2156E+20
Sr-90	1.1433E+03	8.3818E-03	5.6085E+22	1.6908E+19
Sr-91	9.4724E+00	2.6131E-09	1.7293E+16	3.7205E+19
Sr-92	2.3447E-07	1.8654E-17	1.2211E+08	2.0252E+19
Y-90	7.4028E+02	1.3607E-06	9.1045E+18	5.4841E+18
Y-91	1.2651E+02	5.1588E-06	3.4140E+19	1.8159E+18
Y-92	2.3379E-04	2.4297E-14	1.5904E+11	4.4036E+18
Y-93	1.6287E-01	4.8816E-11	3.1611E+14	4.3683E+17
Zr-95	1.2045E+02	5.6068E-06	3.5542E+19	1.8252E+18
Zr-97	2.3566E+00	1.2327E-09	7.6533E+15	6.0628E+17
Nb-95	1.2519E+02	3.2016E-06	2.0295E+19	1.8533E+18
Mo-99	5.7738E+02	1.2038E-06	7.3229E+18	1.5824E+19
Tc-99m	5.9195E+02	1.1257E-07	6.8479E+17	1.4910E+19
Ru-103	1.2950E+03	4.0125E-05	2.3460E+20	1.9930E+19
Ru-105	3.1144E-04	4.6331E-14	2.6572E+11	2.4124E+18
Ru-106	6.2214E+02	1.8596E-04	1.0565E+21	9.2381E+18
Rh-105	1.6576E+02	1.9638E-07	1.1263E+18	7.9931E+18
Sb-127	7.7923E+02	2.9179E-06	1.3836E+19	1.7730E+19
Sb-129	1.0069E-03	1.7905E-13	8.3588E+11	1.1668E+19
Te-127	1.0119E+03	3.8342E-07	1.8181E+18	1.9519E+19
Te-127m	2.6960E+02	2.8582E-05	1.3553E+20	4.0039E+18
Te-129	7.1159E+02	3.3979E-08	1.5862E+17	1.9279E+19
Te-129m	8.2292E+02	2.7317E-05	1.2752E+20	1.2737E+19
Te-131m	3.6253E+02	4.5464E-07	2.0900E+18	2.3422E+19
Te-132	1.0126E+04	3.3354E-05	1.5217E+20	2.5048E+20
I-131	8.2573E+04	6.6605E-04	3.0619E+21	1.4711E+21
I-132	1.2087E+04	1.1709E-06	5.3421E+18	5.9158E+20
I-133	9.8578E+03	8.7021E-06	3.9402E+19	1.3425E+21
I-135	9.6827E+00	2.7572E-09	1.2299E+16	6.4752E+20
Xe-133	5.6916E+07	3.0407E-01	1.3768E+24	9.5490E+23
Xe-135	3.6661E+04	1.4356E-05	6.4039E+19	9.0370E+22
Cs-134	1.9664E+04	1.5199E-02	6.8304E+22	3.0404E+20
Cs-136	4.6713E+03	6.3737E-05	2.8223E+20	8.1697E+19
Cs-137	1.5893E+04	1.8272E-01	8.0317E+23	2.4524E+20
Ba-140	1.0000E+04	1.3660E-04	5.8758E+20	1.6754E+20
La-140	8.8053E+03	1.5842E-05	6.8144E+19	7.3862E+19
La-141	5.1848E-06	9.1679E-16	3.9156E+09	2.6442E+17
Ce-141	2.6946E+02	9.4568E-06	4.0390E+19	4.1804E+18
Ce-143	3.8145E+01	5.7440E-08	2.4189E+17	2.1197E+18
Ce-144	2.3271E+02	7.2961E-05	3.0513E+20	3.4598E+18
Pr-143	1.1365E+02	1.6877E-06	7.1074E+18	1.7207E+18
Nd-147	3.5510E+01	4.3895E-07	1.7982E+18	6.0725E+17
Np-239	1.0519E+03	4.5344E-06	1.1425E+19	3.2270E+19
Pu-238	1.0415E+00	6.0838E-05	1.5394E+20	1.5396E+16
Pu-239	9.1258E-02	1.4682E-03	3.6995E+21	1.3448E+15
Pu-240	1.6838E-01	7.3896E-04	1.8542E+21	2.4897E+15
Pu-241	3.6035E+01	3.4981E-04	8.7411E+20	5.3297E+17
Am-241	2.6681E-02	7.7737E-06	1.9425E+19	3.8919E+14
Cm-242	6.2626E+00	1.8896E-06	4.7021E+18	9.3493E+16
Cm-244	4.4516E-01	5.5024E-06	1.3580E+19	6.5837E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9686E+25	0.0000E+00	
Elemental I (atoms)	3.3536E+20	5.6172E+22	
Organic I (atoms)	5.8198E+20	0.0000E+00	
Aerosols (kg)	2.1033E-01	6.1246E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.1332E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1837E-05
Total I (Ci)			1.0453E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6922E+23

Elemental I (atoms)	0.0000E+00	7.1754E+18
Organic I (atoms)	0.0000E+00	1.0455E+19
Aerosols (kg)	0.0000E+00	4.3322E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6922E+23
Elemental I (atoms)	0.0000E+00	7.1754E+18
Organic I (atoms)	0.0000E+00	1.0455E+19
Aerosols (kg)	0.0000E+00	4.3322E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3429E+23
Elemental I (atoms)	0.0000E+00	3.5811E+18
Organic I (atoms)	0.0000E+00	5.2179E+18
Aerosols (kg)	0.0000E+00	2.1615E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5594E+27
Elemental I (atoms)	0.0000E+00	5.8618E+22
Organic I (atoms)	0.0000E+00	9.4830E+22
Aerosols (kg)	0.0000E+00	3.2273E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5457E+27
Elemental I (atoms)	0.0000E+00	5.8195E+22
Organic I (atoms)	0.0000E+00	9.4137E+22
Aerosols (kg)	0.0000E+00	3.2149E+01

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	1.4540E-02	4.5728E-10	4.7479E+15	5.3800E+08
Co-60	1.7619E-02	1.5587E-08	1.5645E+17	6.5191E+08
Kr-85	3.1381E+04	7.9985E-02	5.6669E+23	1.1611E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	5.6964E-01	7.0008E-09	4.9023E+16	2.1077E+10
Sr-89	2.6000E+01	8.9493E-07	6.0555E+18	9.6198E+11
Sr-90	3.5953E+00	2.6358E-05	1.7637E+20	1.3303E+11
Sr-91	1.1222E+01	3.0959E-09	2.0488E+16	4.1523E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	9.1005E-01	1.6727E-09	1.1192E+16	3.3672E+10
Y-91	3.7930E-01	1.5467E-08	1.0235E+17	1.4034E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3148E-01	3.9409E-11	2.5519E+14	4.8648E+09
Zr-95	3.8990E-01	1.8150E-08	1.1505E+17	1.4426E+10
Zr-97	1.7326E-01	9.0635E-11	5.6270E+14	6.4108E+09
Nb-95	3.9427E-01	1.0083E-08	6.3916E+16	1.4588E+10
Mo-99	3.7313E+00	7.7798E-09	4.7325E+16	1.3806E+11
Tc-99m	3.5875E+00	6.8226E-10	4.1501E+15	1.3274E+11
Ru-103	4.2699E+00	1.3230E-07	7.7354E+17	1.5799E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	1.9660E+00	5.8763E-07	3.3385E+18	7.2740E+10
Rh-105	2.0250E+00	2.3991E-09	1.3760E+16	7.4923E+10

Sb-127	4.0642E+00	1.5219E-08	7.2164E+16	1.5037E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	4.4561E+00	1.6885E-09	8.0066E+15	1.6488E+11
Te-127m	8.5189E-01	9.0314E-08	4.2826E+17	3.1520E+10
Te-129	5.4550E+00	2.6048E-10	1.2160E+15	2.0184E+11
Te-129m	2.7315E+00	9.0672E-08	4.2328E+17	1.0107E+11
Te-131m	6.1117E+00	7.6645E-09	3.5234E+16	2.2613E+11
Te-132	5.8167E+01	1.9160E-07	8.7410E+17	2.1522E+12
I-131	1.0940E+03	8.8240E-06	4.0564E+19	4.0476E+13
I-132	3.2155E+02	3.1152E-08	1.4212E+17	1.1897E+13
I-133	1.0782E+03	9.5177E-07	4.3095E+18	3.9893E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7409E+17	1.6722E+13
Xe-133	2.3708E+06	1.2666E-02	5.7349E+22	8.7719E+16
Xe-135	2.6014E+05	1.0187E-04	4.5442E+20	9.6253E+15
Cs-134	6.8153E+01	5.2675E-05	2.3673E+20	2.5217E+12
Cs-136	1.8756E+01	2.5592E-07	1.1332E+18	6.9398E+11
Cs-137	5.4951E+01	6.3175E-04	2.7770E+21	2.0332E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	3.6461E+01	4.9805E-07	2.1424E+18	1.3491E+12
La-140	1.2491E+01	2.2473E-08	9.6667E+16	4.6217E+11
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	8.9695E-01	3.1479E-08	1.3445E+17	3.3187E+10
Ce-143	5.4503E-01	8.2072E-10	3.4563E+15	2.0166E+10
Ce-144	7.3645E-01	2.3090E-07	9.6563E+17	2.7249E+10
Pr-143	3.6475E-01	5.4167E-09	2.2811E+16	1.3496E+10
Nd-147	1.3264E-01	1.6396E-09	6.7168E+15	4.9076E+09
Np-239	7.7314E+00	3.3326E-08	8.3973E+16	2.8606E+11
Pu-238	3.2737E-03	1.9122E-07	4.8385E+17	1.2113E+08
Pu-239	2.8574E-04	4.5971E-06	1.1583E+19	1.0572E+07
Pu-240	5.2941E-04	2.3233E-06	5.8297E+18	1.9588E+07
Pu-241	1.1334E-01	1.1002E-06	2.7492E+18	4.1935E+09
Am-241	8.2553E-05	2.4053E-08	6.0103E+16	3.0545E+06
Cm-242	1.9916E-02	6.0092E-09	1.4954E+16	7.3690E+08
Cm-244	1.4000E-03	1.7305E-08	4.2710E+16	5.1800E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s	
Noble gases (atoms)	6.2454E+23	1.8071E+18	
Elemental I (atoms)	1.1086E+19	3.2077E+13	
Organic I (atoms)	2.3675E+19	6.8503E+13	
Aerosols (kg)	7.2458E-04	2.0966E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.2885E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.4325E+03
Total I (Ci)			3.0111E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5358E+23
Elemental I (atoms)	1.2944E+18	5.3969E+18
Organic I (atoms)	0.0000E+00	9.6916E+18
Aerosols (kg)	3.6670E-03	5.0859E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5343E+23
Elemental I (atoms)	1.9072E+18	3.9560E+18
Organic I (atoms)	0.0000E+00	9.6770E+18
Aerosols (kg)	7.7853E-04	1.9196E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1781E+23
Elemental I (atoms)	9.3647E+17	1.7821E+18
Organic I (atoms)	0.0000E+00	4.4295E+18
Aerosols (kg)	1.9515E-04	2.4046E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1173E+20
Elemental I (atoms)	5.4443E+15	1.5788E+14
Organic I (atoms)	8.4690E+15	9.3728E+13
Aerosols (kg)	3.8341E-07	1.7187E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6546E+19
Elemental I (atoms)	0.0000E+00	1.3939E+15
Organic I (atoms)	0.0000E+00	1.8921E+15
Aerosols (kg)	0.0000E+00	1.0919E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.5700E+20	0.0000E+00
Elemental I (atoms)	1.5393E+15	0.0000E+00
Organic I (atoms)	1.9688E+15	0.0000E+00
Aerosols (kg)	1.2621E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2816E+00	6.1508E+01	5.2443E+00
Accumulated dose (rem)	1.3827E+01	1.8609E+02	2.1951E+01

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.2357E-03	1.1047E-01	1.1557E-02
Accumulated dose (rem)	4.0126E-01	2.7868E+00	5.2558E-01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4222E-02	4.5088E+00	2.5134E-01
Accumulated dose (rem)	1.0958E+00	5.4863E+01	3.4939E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	9.8891E+05	2.5206E+00	1.7858E+25	3.2148E+22
Kr-85m	1.1876E-09	1.4431E-19	1.0224E+06	1.2265E+22
Rb-86	1.1595E+02	1.4250E-06	9.9788E+18	5.0214E+18
Sr-89	7.1661E+03	2.4666E-04	1.6690E+21	2.6656E+20
Sr-90	1.1159E+03	8.1807E-03	5.4739E+22	3.8572E+19
Sr-91	2.5299E-04	6.9790E-14	4.6185E+11	3.7222E+19
Y-90	1.0382E+03	1.9082E-06	1.2768E+19	2.3211E+19
Y-91	1.1508E+02	4.6924E-06	3.1053E+19	4.1311E+18

Y-93	8.1198E-06	2.4337E-15	1.5760E+10	4.3714E+17
Zr-95	1.1020E+02	5.1299E-06	3.2519E+19	4.0356E+18
Zr-97	6.2649E-03	3.2772E-12	2.0346E+13	6.1389E+17
Nb-95	1.2117E+02	3.0988E-06	1.9644E+19	4.2159E+18
Mo-99	1.2425E+02	2.5906E-07	1.5758E+18	2.1481E+19
Tc-99m	1.2738E+02	2.4226E-08	1.4736E+17	2.0417E+19
Ru-103	1.1374E+03	3.5242E-05	2.0605E+20	4.3223E+19
Ru-106	6.0063E+02	1.7953E-04	1.0199E+21	2.0963E+19
Rh-105	9.6200E+00	1.1397E-08	6.5368E+16	9.0450E+18
Sb-127	2.5831E+02	9.6728E-07	4.5867E+18	2.6778E+19
Te-127	5.0607E+02	1.9176E-07	9.0928E+17	3.2765E+19
Te-127m	2.5651E+02	2.7194E-05	1.2895E+20	9.0532E+18
Te-129	6.1390E+02	2.9314E-08	1.3685E+17	2.8834E+19
Te-129m	7.0995E+02	2.3566E-05	1.1002E+20	2.7410E+19
Te-131m	1.2706E+01	1.5935E-08	7.3253E+16	2.5424E+19
Te-132	2.7589E+03	9.0875E-06	4.1459E+19	3.5914E+20
I-131	4.8092E+04	3.8791E-04	1.7833E+21	2.6946E+21
I-132	3.2931E+03	3.1903E-07	1.4555E+18	7.0406E+20
I-133	7.9314E+01	7.0015E-08	3.1702E+17	1.3813E+21
I-135	2.6159E-06	7.4489E-16	3.3228E+09	6.4754E+20
Xe-133	2.5148E+07	1.3435E-01	6.0834E+23	1.7009E+24
Xe-135	6.0996E-01	2.3885E-10	1.0655E+15	9.0434E+22
Cs-134	1.9094E+04	1.4758E-02	6.6324E+22	6.7569E+20
Cs-136	3.3204E+03	4.5304E-05	2.0061E+20	1.5760E+20
Cs-137	1.5512E+04	1.7834E-01	7.8391E+23	5.4639E+20
Ba-140	7.0446E+03	9.6226E-05	4.1392E+20	3.2934E+20
La-140	7.9530E+03	1.4308E-05	6.1548E+19	2.4064E+20
Ce-141	2.3149E+02	8.1244E-06	3.4699E+19	8.9751E+18
Ce-143	1.8091E+00	2.7243E-09	1.1473E+16	2.3483E+18
Ce-144	2.2391E+02	7.0204E-05	2.9359E+20	7.8381E+18
Pr-143	8.4547E+01	1.2556E-06	5.2875E+18	3.6210E+18
Nd-147	2.3740E+01	2.9345E-07	1.2022E+18	1.1679E+18
Np-239	1.7565E+02	7.5715E-07	1.9078E+18	4.1660E+19
Pu-238	1.0176E+00	5.9440E-05	1.5040E+20	3.5141E+16
Pu-239	8.9332E-02	1.4372E-03	3.6214E+21	3.0772E+15
Pu-240	1.6441E-01	7.2151E-04	1.8104E+21	5.6809E+15
Pu-241	3.5156E+01	3.4128E-04	8.5280E+20	1.2156E+18
Am-241	2.6976E-02	7.8599E-06	1.9640E+19	9.0373E+14
Cm-242	5.9605E+00	1.7984E-06	4.4753E+18	2.1068E+17
Cm-244	4.3437E-01	5.3691E-06	1.3251E+19	1.5018E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	1.8466E+25	0.0000E+00
Elemental I (atoms)	1.9270E+20	5.6172E+22
Organic I (atoms)	3.3440E+20	0.0000E+00
Aerosols (kg)	2.0490E-01	6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		1.7889E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.7929E-05
Total I (Ci)		5.1464E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7204E+23
Elemental I (atoms)	0.0000E+00	1.1266E+19
Organic I (atoms)	0.0000E+00	1.7554E+19
Aerosols (kg)	0.0000E+00	7.6362E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7204E+23
Elemental I (atoms)	0.0000E+00	1.1266E+19
Organic I (atoms)	0.0000E+00	1.7554E+19

Aerosols (kg)	0.0000E+00	7.6362E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8483E+23
Elemental I (atoms)	0.0000E+00	5.6149E+18
Organic I (atoms)	0.0000E+00	8.7473E+18
Aerosols (kg)	0.0000E+00	3.8041E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.1932E+27
Elemental I (atoms)	0.0000E+00	1.0771E+23
Organic I (atoms)	0.0000E+00	1.8002E+23
Aerosols (kg)	0.0000E+00	7.1921E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.1797E+27
Elemental I (atoms)	0.0000E+00	1.0729E+23
Organic I (atoms)	0.0000E+00	1.7934E+23
Aerosols (kg)	0.0000E+00	7.1800E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	7.1234E+04	1.8156E-01	1.2864E+24	2.6357E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	9.3353E-01	1.1473E-08	8.0340E+16	3.4541E+10
Sr-89	4.6930E+01	1.6154E-06	1.0930E+19	1.7364E+12
Sr-90	6.7233E+00	4.9288E-05	3.2980E+20	2.4876E+11
Sr-91	1.1225E+01	3.0965E-09	2.0492E+16	4.1532E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	3.4896E+00	6.4140E-09	4.2918E+16	1.2912E+11
Y-91	7.1350E-01	2.9094E-08	1.9254E+17	2.6399E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3152E-01	3.9422E-11	2.5527E+14	4.8664E+09
Zr-95	7.0898E-01	3.3002E-08	2.0920E+17	2.6232E+10
Zr-97	1.7434E-01	9.1197E-11	5.6619E+14	6.4506E+09
Nb-95	7.3552E-01	1.8810E-08	1.1924E+17	2.7214E+10
Mo-99	4.5438E+00	9.4739E-09	5.7630E+16	1.6812E+11
Tc-99m	4.4205E+00	8.4068E-10	5.1138E+15	1.6356E+11
Ru-103	7.6318E+00	2.3647E-07	1.3826E+18	2.8238E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	3.6587E+00	1.0936E-06	6.2130E+18	1.3537E+11
Rh-105	2.1754E+00	2.5773E-09	1.4782E+16	8.0488E+10
Sb-127	5.3657E+00	2.0092E-08	9.5275E+16	1.9853E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	6.4310E+00	2.4368E-09	1.1555E+16	2.3795E+11
Te-127m	1.5809E+00	1.6760E-07	7.9473E+17	5.8493E+10
Te-129	7.2861E+00	3.4791E-10	1.6242E+15	2.6959E+11
Te-129m	4.8491E+00	1.6097E-07	7.5144E+17	1.7942E+11
Te-131m	6.3975E+00	8.0229E-09	3.6882E+16	2.3671E+11
Te-132	7.3787E+01	2.4305E-07	1.1088E+18	2.7301E+12
I-131	1.7292E+03	1.3948E-05	6.4118E+19	6.3979E+13
I-132	3.7141E+02	3.5982E-08	1.6416E+17	1.3742E+13
I-133	1.0981E+03	9.6933E-07	4.3891E+18	4.0629E+13

I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7410E+17	1.6723E+13
Xe-133	3.9145E+06	2.0913E-02	9.4691E+22	1.4484E+17
Xe-135	2.6027E+05	1.0192E-04	4.5464E+20	9.6301E+15
Cs-134	1.2181E+02	9.4149E-05	4.2312E+20	4.5071E+12
Cs-136	2.9703E+01	4.0528E-07	1.7946E+18	1.0990E+12
Cs-137	9.8431E+01	1.1316E-03	4.9743E+21	3.6420E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	5.9796E+01	8.1679E-07	3.5134E+18	2.2125E+12
La-140	3.6766E+01	6.6146E-08	2.8453E+17	1.3603E+12
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	1.5889E+00	5.5764E-08	2.3817E+17	5.8790E+10
Ce-143	5.7769E-01	8.6990E-10	3.6634E+15	2.1374E+10
Ce-144	1.3686E+00	4.2909E-07	1.7945E+18	5.0637E+10
Pr-143	6.3891E-01	9.4879E-09	3.9956E+16	2.3639E+10
Nd-147	2.1348E-01	2.6388E-09	1.0811E+16	7.8987E+09
Np-239	9.0789E+00	3.9134E-08	9.8608E+16	3.3592E+11
Pu-238	6.1246E-03	3.5775E-07	9.0522E+17	2.2661E+08
Pu-239	5.3586E-04	8.6211E-06	2.1723E+19	1.9827E+07
Pu-240	9.9016E-04	4.3454E-06	1.0903E+19	3.6636E+07
Pu-241	2.1190E-01	2.0570E-06	5.1402E+18	7.8403E+09
Am-241	1.5686E-04	4.5703E-08	1.1420E+17	5.8039E+06
Cm-242	3.6835E-02	1.1114E-08	2.7657E+16	1.3629E+09
Cm-244	2.6177E-03	3.2356E-08	7.9858E+16	9.6855E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.3816E+24	1.5990E+18	
Elemental I (atoms)	1.2432E+19	1.4389E+13	
Organic I (atoms)	4.1356E+19	4.7865E+13	
Aerosols (kg)	1.2994E-03	1.5040E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.9273E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0748E+03
Total I (Ci)			3.7161E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5674E+23
Elemental I (atoms)	4.2461E+18	6.5408E+18
Organic I (atoms)	0.0000E+00	1.6799E+19
Aerosols (kg)	6.5719E-03	9.1147E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5660E+23
Elemental I (atoms)	3.6652E+18	4.0922E+18
Organic I (atoms)	0.0000E+00	1.6783E+19
Aerosols (kg)	1.3955E-03	3.4408E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6872E+23
Elemental I (atoms)	1.8617E+18	1.8538E+18
Organic I (atoms)	0.0000E+00	7.9659E+18
Aerosols (kg)	3.5626E-04	4.3897E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6869E+20
Elemental I (atoms)	5.7217E+15	1.6068E+14
Organic I (atoms)	1.2111E+16	1.3052E+14
Aerosols (kg)	5.0138E-07	1.8379E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.0989E+19
Elemental I (atoms)	0.0000E+00	1.4553E+15
Organic I (atoms)	0.0000E+00	2.6995E+15
Aerosols (kg)	0.0000E+00	1.3534E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	4.4859E+20	0.0000E+00
Elemental I (atoms)	1.6041E+15	0.0000E+00
Organic I (atoms)	2.8139E+15	0.0000E+00
Aerosols (kg)	1.5357E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7139E+00	6.7879E+01	7.1133E+00
Accumulated dose (rem)	1.5540E+01	2.5397E+02	2.9064E+01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6842E-03	1.2191E-01	1.4382E-02
Accumulated dose (rem)	4.0595E-01	2.9087E+00	5.3996E-01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5463E-02	4.9675E+00	4.2056E-01
Accumulated dose (rem)	1.1213E+00	5.9831E+01	3.9145E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	9.0997E+05	2.3194E+00	1.6432E+25	9.2811E+22
Rb-86	5.0937E+01	6.2602E-07	4.3837E+18	1.0074E+19
Sr-89	5.0288E+03	1.7310E-04	1.1713E+21	6.5235E+20
Sr-90	1.0291E+03	7.5445E-03	5.0482E+22	1.0710E+20
Y-90	1.0345E+03	1.9015E-06	1.2723E+19	9.0745E+19
Y-91	8.3848E+01	3.4190E-06	2.2626E+19	1.0437E+19
Zr-95	8.1942E+01	3.8143E-06	2.4179E+19	1.0133E+19
Zr-97	1.6306E-11	8.5299E-21	5.2957E+04	6.1391E+17
Nb-95	1.0475E+02	2.6789E-06	1.6982E+19	1.1452E+19
Mo-99	7.4197E-01	1.5470E-09	9.4105E+15	2.3023E+19
Tc-99m	7.6070E-01	1.4467E-10	8.8001E+14	2.1918E+19
Ru-103	7.3798E+02	2.2866E-05	1.3369E+20	1.0225E+20
Ru-106	5.3415E+02	1.5966E-04	9.0705E+20	5.7195E+19
Rh-105	7.2812E-04	8.6264E-13	4.9476E+12	9.1098E+18
Sb-127	6.5127E+00	2.4387E-08	1.1564E+17	3.1152E+19
Te-127	2.2037E+02	8.3501E-08	3.9595E+17	5.1407E+19
Te-127m	2.0992E+02	2.2255E-05	1.0553E+20	2.3936E+19
Te-129	3.7525E+02	1.7918E-08	8.3648E+16	5.2178E+19
Te-129m	4.3396E+02	1.4405E-05	6.7248E+19	6.3255E+19

Te-131m	1.7904E-04	2.2453E-13	1.0322E+12	2.5497E+19
Te-132	3.6174E+01	1.1915E-07	5.4360E+17	3.9930E+20
I-131	7.9189E+03	6.3875E-05	2.9364E+20	4.1184E+21
I-132	4.3177E+01	4.1829E-09	1.9083E+16	7.4563E+20
I-133	8.2777E-06	7.3072E-15	3.3087E+10	1.3817E+21
Xe-133	1.6521E+06	8.8263E-03	3.9965E+22	2.2526E+24
Cs-134	1.7311E+04	1.3380E-02	6.0129E+22	1.8385E+21
Cs-136	1.0642E+03	1.4520E-05	6.4294E+19	2.8436E+20
Cs-137	1.4306E+04	1.6447E-01	7.2298E+23	1.4990E+21
Ba-140	2.1912E+03	2.9931E-05	1.2875E+20	5.9504E+20
La-140	2.5454E+03	4.5794E-06	1.9698E+19	5.4522E+20
Ce-141	1.3954E+02	4.8973E-06	2.0916E+19	2.0588E+19
Ce-143	6.9865E-05	1.0521E-13	4.4305E+11	2.3597E+18
Ce-144	1.9693E+02	6.1743E-05	2.5821E+20	2.1272E+19
Pr-143	2.8155E+01	4.1811E-07	1.7608E+18	6.9031E+18
Nd-147	6.2025E+00	7.6670E-08	3.1409E+17	2.0032E+18
Np-239	4.5035E-01	1.9412E-09	4.8913E+15	4.3537E+19
Pu-238	9.4155E-01	5.4998E-05	1.3916E+20	9.7736E+16
Pu-239	8.2535E-02	1.3279E-03	3.3458E+21	8.5690E+15
Pu-240	1.5182E-01	6.6628E-04	1.6718E+21	1.5784E+16
Pu-241	3.2379E+01	3.1432E-04	7.8543E+20	3.3732E+18
Am-241	2.7756E-02	8.0870E-06	2.0208E+19	2.6547E+15
Cm-242	5.0548E+00	1.5252E-06	3.7953E+18	5.6200E+17
Cm-244	4.0028E-01	4.9476E-06	1.2211E+19	4.1683E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6472E+25	0.0000E+00	
Elemental I (atoms)	3.1701E+19	5.6172E+22	
Organic I (atoms)	5.5012E+19	0.0000E+00	
Aerosols (kg)	1.8835E-01	6.1246E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9438E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9443E-06
Total I (Ci)			7.9620E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4922E+24
Elemental I (atoms)	0.0000E+00	1.6006E+19
Organic I (atoms)	0.0000E+00	2.5780E+19
Aerosols (kg)	0.0000E+00	1.8059E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4922E+24
Elemental I (atoms)	0.0000E+00	1.6006E+19
Organic I (atoms)	0.0000E+00	2.5780E+19
Aerosols (kg)	0.0000E+00	1.8059E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4229E+23
Elemental I (atoms)	0.0000E+00	7.9714E+18
Organic I (atoms)	0.0000E+00	1.2837E+19
Aerosols (kg)	0.0000E+00	8.9858E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7235E+28

Elemental I (atoms)	0.0000E+00	1.6459E+23
Organic I (atoms)	0.0000E+00	2.7873E+23
Aerosols (kg)	0.0000E+00	1.9700E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7223E+28
Elemental I (atoms)	0.0000E+00	1.6418E+23
Organic I (atoms)	0.0000E+00	2.7805E+23
Aerosols (kg)	0.0000E+00	1.9689E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.9712E+05	5.0242E-01	3.5596E+24	7.2933E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	1.6625E+00	2.0432E-08	1.4308E+17	6.1513E+10
Sr-89	1.0262E+02	3.5321E-06	2.3900E+19	3.7968E+12
Sr-90	1.6618E+01	1.2182E-04	8.1516E+20	6.1485E+11
Sr-91	1.1225E+01	3.0965E-09	2.0492E+16	4.1532E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	1.3295E+01	2.4436E-08	1.6351E+17	4.9190E+11
Y-91	1.6238E+00	6.6211E-08	4.3817E+17	6.0079E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3152E-01	3.9422E-11	2.5527E+14	4.8664E+09
Zr-95	1.5892E+00	7.3973E-08	4.6892E+17	5.8799E+10
Zr-97	1.7434E-01	9.1199E-11	5.6620E+14	6.4507E+09
Nb-95	1.7806E+00	4.5536E-08	2.8866E+17	6.5883E+10
Mo-99	4.7653E+00	9.9357E-09	6.0439E+16	1.7632E+11
Tc-99m	4.6475E+00	8.8386E-10	5.3765E+15	1.7196E+11
Ru-103	1.6151E+01	5.0045E-07	2.9260E+18	5.9760E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	8.8898E+00	2.6572E-06	1.5096E+19	3.2892E+11
Rh-105	2.1846E+00	2.5882E-09	1.4845E+16	8.0831E+10
Sb-127	5.9949E+00	2.2448E-08	1.0645E+17	2.2181E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	9.2186E+00	3.4931E-09	1.6564E+16	3.4109E+11
Te-127m	3.7295E+00	3.9539E-07	1.8749E+18	1.3799E+11
Te-129	1.1759E+01	5.6151E-10	2.6213E+15	4.3510E+11
Te-129m	1.0022E+01	3.3268E-07	1.5531E+18	3.7082E+11
Te-131m	6.4079E+00	8.0359E-09	3.6941E+16	2.3709E+11
Te-132	7.9560E+01	2.6206E-07	1.1956E+18	2.9437E+12
I-131	2.4301E+03	1.9601E-05	9.0108E+19	8.9912E+13
I-132	3.8913E+02	3.7698E-08	1.7199E+17	1.4398E+13
I-133	1.0982E+03	9.6947E-07	4.3897E+18	4.0634E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7410E+17	1.6723E+13
Xe-133	5.0562E+06	2.7012E-02	1.2231E+23	1.8708E+17
Xe-135	2.6027E+05	1.0192E-04	4.5464E+20	9.6301E+15
Cs-134	2.8969E+02	2.2390E-04	1.0063E+21	1.0719E+13
Cs-136	4.7985E+01	6.5472E-07	2.8991E+18	1.7755E+12
Cs-137	2.3597E+02	2.7129E-03	1.1925E+22	8.7310E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	9.8115E+01	1.3402E-06	5.7649E+18	3.6302E+12
La-140	8.1025E+01	1.4577E-07	6.2705E+17	2.9979E+12
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	3.2649E+00	1.1459E-07	4.8939E+17	1.2080E+11
Ce-143	5.7931E-01	8.7235E-10	3.6737E+15	2.1435E+10
Ce-144	3.3081E+00	1.0372E-06	4.3376E+18	1.2240E+11
Pr-143	1.1123E+00	1.6518E-08	6.9561E+16	4.1154E+10

Nd-147	3.3393E-01	4.1277E-09	1.6910E+16	1.2355E+10
Np-239	9.3483E+00	4.0296E-08	1.0153E+17	3.4589E+11
Pu-238	1.5162E-02	8.8565E-07	2.2410E+18	5.6100E+08
Pu-239	1.3288E-03	2.1378E-05	5.3867E+19	4.9165E+07
Pu-240	2.4489E-03	1.0747E-05	2.6966E+19	9.0608E+07
Pu-241	5.2342E-01	5.0811E-06	1.2697E+19	1.9366E+10
Am-241	4.0973E-04	1.1938E-07	2.9830E+17	1.5160E+07
Cm-242	8.7554E-02	2.6417E-08	6.5739E+16	3.2395E+09
Cm-244	6.4677E-03	7.9944E-08	1.9731E+17	2.3930E+08

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.6824E+24	1.4207E+18
Elemental I (atoms)	1.2573E+19	4.8508E+12
Organic I (atoms)	6.1849E+19	2.3862E+13
Aerosols (kg)	3.1129E-03	1.2010E-09

Dose Effective (Ci) I-131 (Thyroid)	2.6283E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.7764E+03
Total I (Ci)	4.4349E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4780E+24
Elemental I (atoms)	8.8615E+18	6.6708E+18
Organic I (atoms)	0.0000E+00	2.5034E+19
Aerosols (kg)	1.5736E-02	2.1824E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4778E+24
Elemental I (atoms)	3.9894E+18	4.0994E+18
Organic I (atoms)	0.0000E+00	2.5018E+19
Aerosols (kg)	3.3417E-03	8.2397E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2728E+23
Elemental I (atoms)	2.0540E+18	1.8580E+18
Organic I (atoms)	0.0000E+00	1.2065E+19
Aerosols (kg)	8.6448E-04	1.0652E-04

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.4564E+20
Elemental I (atoms)	5.7507E+15	1.6097E+14
Organic I (atoms)	1.6332E+16	1.7315E+14
Aerosols (kg)	8.7351E-07	2.2137E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8565E+20
Elemental I (atoms)	0.0000E+00	1.4618E+15
Organic I (atoms)	0.0000E+00	3.6351E+15
Aerosols (kg)	0.0000E+00	2.1783E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.0303E+21	0.0000E+00
Elemental I (atoms)	1.6110E+15	0.0000E+00
Organic I (atoms)	3.7922E+15	0.0000E+00
Aerosols (kg)	2.3983E-07	0.0000E+00

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#####################################################################
                          I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5610E+03	0.0000E+00	0.0000E+00
0.033	2.6763E+05	0.0000E+00	0.0000E+00
0.167	1.2414E+06	3.7415E+01	3.7117E+01
0.500	5.4081E+05	1.0715E+02	1.0324E+02
0.667	8.5903E+05	1.4446E+02	1.3790E+02
1.000	9.0006E+05	2.2451E+02	2.1061E+02
1.160	9.0687E+05	2.5935E+02	2.4115E+02
1.410	9.1483E+05	3.0914E+02	2.8353E+02
1.660	9.2071E+05	3.5365E+02	3.2008E+02
1.910	9.2529E+05	3.9335E+02	3.5154E+02
2.000	9.2672E+05	4.0656E+02	3.6175E+02
2.200	1.1548E+05	3.9736E+02	3.4882E+02
2.300	8.0589E+04	3.8779E+02	3.3761E+02
2.600	1.6647E+05	3.6338E+02	3.0907E+02
2.900	1.6838E+05	3.4321E+02	2.8580E+02
3.200	1.5015E+05	3.2408E+02	2.6439E+02
3.500	1.2967E+05	3.0530E+02	2.4408E+02
3.800	1.1150E+05	2.8689E+02	2.2479E+02
4.000	1.0111E+05	2.7490E+02	2.1253E+02
4.300	1.1082E+05	2.5823E+02	1.9587E+02
4.600	1.1431E+05	2.4337E+02	1.8141E+02
4.900	1.1551E+05	2.2991E+02	1.6868E+02
5.200	1.1587E+05	2.1764E+02	1.5739E+02
5.500	1.1591E+05	2.0643E+02	1.4735E+02
5.800	1.1585E+05	1.9617E+02	1.3840E+02
6.100	1.1574E+05	1.8679E+02	1.3044E+02
6.400	1.1561E+05	1.7819E+02	1.2334E+02
6.700	1.1548E+05	1.7032E+02	1.1701E+02
7.000	1.1535E+05	1.6311E+02	1.1137E+02
7.300	1.1522E+05	1.5650E+02	1.0634E+02
7.600	1.1508E+05	1.5045E+02	1.0186E+02
7.900	1.1495E+05	1.4491E+02	9.7857E+01
8.000	1.1491E+05	1.4317E+02	9.6621E+01
8.300	1.1477E+05	1.3823E+02	9.3183E+01
8.600	1.1464E+05	1.3371E+02	9.0114E+01
8.900	1.1451E+05	1.2957E+02	8.7374E+01
9.200	1.1438E+05	1.2577E+02	8.4927E+01
9.500	1.1424E+05	1.2228E+02	8.2739E+01
9.800	1.1411E+05	1.1909E+02	8.0784E+01
10.100	1.1398E+05	1.1615E+02	7.9035E+01
10.400	1.1385E+05	1.1346E+02	7.7470E+01
24.000	1.0802E+05	8.1747E+01	6.2103E+01
48.000	9.8800E+04	7.4616E+01	5.6966E+01
72.000	9.0333E+04	6.8217E+01	5.2086E+01
96.000	8.2573E+04	6.2357E+01	4.7612E+01
240.000	4.8092E+04	3.6318E+01	2.7730E+01
720.000	7.9189E+03	5.9801E+00	4.5660E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.2071E-01	1.8866E+01	4.4617E-02
0.500	3.5696E+00	5.6079E+01	5.7917E-01
0.667	5.5606E+00	7.6537E+01	9.6772E-01
1.000	1.0557E+01	1.2177E+02	2.0506E+00
1.160	1.3174E+01	1.4236E+02	2.6867E+00
1.410	1.7253E+01	1.7291E+02	3.7868E+00
1.660	2.1146E+01	2.0149E+02	4.9775E+00
1.910	2.4751E+01	2.2819E+02	6.2239E+00
2.000	2.5969E+01	2.3735E+02	6.6809E+00
2.200	2.7288E+01	2.3608E+02	7.2516E+00
2.300	2.7709E+01	2.3284E+02	7.5070E+00
2.600	2.8189E+01	2.2482E+02	8.1577E+00
2.900	2.7920E+01	2.1834E+02	8.6717E+00
3.200	2.7213E+01	2.1185E+02	9.0772E+00
3.500	2.6235E+01	2.0506E+02	9.3914E+00
3.800	2.5095E+01	1.9800E+02	9.6275E+00
4.000	2.4282E+01	1.9320E+02	9.7471E+00
4.300	2.3032E+01	1.8635E+02	9.8781E+00
4.600	2.1804E+01	1.8005E+02	9.9619E+00
4.900	2.0633E+01	1.7416E+02	1.0008E+01
5.200	1.9540E+01	1.6860E+02	1.0025E+01
5.500	1.8532E+01	1.6335E+02	1.0017E+01
5.800	1.7609E+01	1.5838E+02	9.9911E+00
6.100	1.6769E+01	1.5367E+02	9.9503E+00
6.400	1.6009E+01	1.4921E+02	9.8983E+00
6.700	1.5324E+01	1.4498E+02	9.8376E+00
7.000	1.4707E+01	1.4097E+02	9.7707E+00
7.300	1.4152E+01	1.3717E+02	9.6993E+00
7.600	1.3654E+01	1.3357E+02	9.6248E+00
7.900	1.3208E+01	1.3016E+02	9.5486E+00
8.000	1.3070E+01	1.2906E+02	9.5230E+00
8.300	1.2674E+01	1.2588E+02	9.4403E+00
8.600	1.2322E+01	1.2287E+02	9.3587E+00
8.900	1.2008E+01	1.2001E+02	9.2786E+00
9.200	1.1728E+01	1.1731E+02	9.2004E+00
9.500	1.1478E+01	1.1474E+02	9.1242E+00
9.800	1.1255E+01	1.1230E+02	9.0503E+00
10.100	1.1055E+01	1.0999E+02	8.9787E+00
10.400	1.0876E+01	1.0780E+02	8.9095E+00
24.000	9.0367E+00	6.9876E+01	7.4528E+00
48.000	8.2086E+00	6.0973E+01	6.6159E+00
72.000	7.3133E+00	5.5435E+01	5.8535E+00
96.000	6.4234E+00	5.0640E+01	5.1009E+00
240.000	3.5703E+00	2.9491E+01	2.8055E+00
720.000	5.2566E-01	4.8560E+00	3.9798E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6800E+00
0.033	0.0000E+00	0.0000E+00	5.8218E+03
0.167	1.6941E-01	5.4541E-04	1.2678E+05
0.500	2.7282E+00	5.7086E-03	2.7011E+05
0.667	4.9805E+00	8.7701E-03	3.3818E+05
1.000	1.2062E+01	6.5110E-03	4.6011E+05
1.160	1.6731E+01	6.0622E-03	4.9801E+05
1.410	2.5648E+01	5.9032E-03	5.3951E+05
1.660	3.6470E+01	6.1935E-03	5.6642E+05
1.910	4.9099E+01	6.7620E-03	5.8407E+05
2.000	5.4067E+01	7.0111E-03	5.8885E+05
2.200	6.0768E+01	6.2434E-03	4.6289E+05
2.300	6.4126E+01	5.9448E-03	3.9016E+05
2.600	7.4126E+01	5.2799E-03	2.5572E+05
2.900	8.3997E+01	4.8508E-03	1.9123E+05
3.200	9.3702E+01	4.5603E-03	1.5237E+05
3.500	1.0321E+02	4.3492E-03	1.2504E+05

3.800	1.1249E+02	4.1829E-03	1.0427E+05
4.000	1.1854E+02	4.0868E-03	9.2979E+04
4.300	1.2742E+02	3.9569E-03	8.3046E+04
4.600	1.3608E+02	3.8400E-03	7.9332E+04
4.900	1.4452E+02	3.7336E-03	7.7908E+04
5.200	1.5276E+02	3.6360E-03	7.7328E+04
5.500	1.6082E+02	3.5462E-03	7.7058E+04
5.800	1.6871E+02	3.4635E-03	7.6902E+04
6.100	1.7645E+02	3.3874E-03	7.6789E+04
6.400	1.8404E+02	3.3175E-03	7.6691E+04
6.700	1.9150E+02	3.2533E-03	7.6599E+04
7.000	1.9884E+02	3.1945E-03	7.6509E+04
7.300	2.0607E+02	3.1407E-03	7.6421E+04
7.600	2.1320E+02	3.0914E-03	7.6332E+04
7.900	2.2024E+02	3.0464E-03	7.6244E+04
8.000	2.2257E+02	3.0323E-03	7.6214E+04
8.300	2.2942E+02	2.3335E-03	7.6126E+04
8.600	2.3618E+02	1.8996E-03	7.6038E+04
8.900	2.4288E+02	1.6288E-03	7.5950E+04
9.200	2.4952E+02	1.4584E-03	7.5863E+04
9.500	2.5610E+02	1.3501E-03	7.5775E+04
9.800	2.6264E+02	1.2800E-03	7.5687E+04
10.100	2.6912E+02	1.2338E-03	7.5600E+04
10.400	2.7556E+02	1.2026E-03	7.5512E+04
24.000	5.4815E+02	1.0424E-03	7.1644E+04
48.000	7.6196E+02	3.0279E-04	6.5525E+04
72.000	9.4230E+02	2.5510E-04	5.9910E+04
96.000	1.0940E+03	2.1455E-04	5.4764E+04
240.000	1.7292E+03	9.7447E-05	3.1895E+04
720.000	2.4301E+03	1.5216E-05	5.2519E+03

##
Cumulative Dose Summary
##

	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2928E-02	1.2017E-03	2.4024E-03	1.2591E-04	2.1347E-02	8.9406E-04
0.500	3.6810E-01	2.0844E-02	3.8570E-02	2.1841E-03	8.6324E-01	3.5967E-02
0.667	6.7172E-01	4.1001E-02	7.0384E-02	4.2961E-03	1.8732E+00	7.8419E-02
1.000	1.6316E+00	1.2834E-01	1.7096E-01	1.3447E-02	3.9679E+00	1.6987E-01
1.160	2.2649E+00	2.0029E-01	2.3732E-01	2.0986E-02	4.8083E+00	2.0901E-01
1.410	3.4740E+00	3.6044E-01	3.6401E-01	3.7768E-02	6.0541E+00	2.7209E-01
1.660	4.9396E+00	5.8457E-01	5.1757E-01	6.1252E-02	7.3182E+00	3.4352E-01
1.910	6.6465E+00	8.7643E-01	6.9642E-01	9.1833E-02	8.6753E+00	4.2801E-01
2.000	7.3169E+00	9.9839E-01	7.6667E-01	1.0461E-01	9.1959E+00	4.6225E-01
2.200	8.2205E+00	1.1700E+00	8.0591E-01	1.1207E-01	1.0306E+01	5.3725E-01
2.300	8.6723E+00	1.2591E+00	8.2553E-01	1.1593E-01	1.0818E+01	5.7241E-01
2.600	1.0014E+01	1.5358E+00	8.8380E-01	1.2795E-01	1.2222E+01	6.7153E-01
2.900	1.1333E+01	1.8231E+00	9.4109E-01	1.4043E-01	1.3487E+01	7.6437E-01
3.200	1.2625E+01	2.1168E+00	9.9719E-01	1.5318E-01	1.4661E+01	8.5347E-01
3.500	1.3885E+01	2.4132E+00	1.0519E+00	1.6605E-01	1.5768E+01	9.4004E-01
3.800	1.5110E+01	2.7095E+00	1.1051E+00	1.7892E-01	1.6825E+01	1.0246E+00
4.000	1.5907E+01	2.9057E+00	1.1397E+00	1.8744E-01	1.7506E+01	1.0799E+00
4.300	1.7072E+01	3.1968E+00	1.1903E+00	2.0008E-01	1.8497E+01	1.1613E+00
4.600	1.8203E+01	3.4828E+00	1.2394E+00	2.1250E-01	1.9453E+01	1.2407E+00
4.900	1.9301E+01	3.7628E+00	1.2871E+00	2.2466E-01	2.0379E+01	1.3180E+00
5.200	2.0370E+01	4.0359E+00	1.3335E+00	2.3652E-01	2.1276E+01	1.3932E+00
5.500	2.1410E+01	4.3018E+00	1.3787E+00	2.4807E-01	2.2148E+01	1.4662E+00
5.800	2.2426E+01	4.5600E+00	1.4228E+00	2.5928E-01	2.2995E+01	1.5371E+00
6.100	2.3417E+01	4.8103E+00	1.4659E+00	2.7015E-01	2.3820E+01	1.6059E+00
6.400	2.4387E+01	5.0528E+00	1.5080E+00	2.8068E-01	2.4625E+01	1.6726E+00
6.700	2.5338E+01	5.2875E+00	1.5492E+00	2.9087E-01	2.5411E+01	1.7373E+00
7.000	2.6269E+01	5.5143E+00	1.5897E+00	3.0072E-01	2.6179E+01	1.8000E+00

7.300	2.7184E+01	5.7336E+00	1.6294E+00	3.1024E-01	2.6932E+01	1.8607E+00
7.600	2.8084E+01	5.9454E+00	1.6685E+00	3.1944E-01	2.7670E+01	1.9197E+00
7.900	2.8969E+01	6.1501E+00	1.7069E+00	3.2833E-01	2.8394E+01	1.9769E+00
8.000	2.9261E+01	6.2167E+00	1.7196E+00	3.3122E-01	2.8633E+01	1.9956E+00
8.300	3.0118E+01	6.4118E+00	1.7320E+00	3.3620E-01	2.9258E+01	2.0441E+00
8.600	3.0963E+01	6.6002E+00	1.7441E+00	3.4100E-01	2.9751E+01	2.0818E+00
8.900	3.1798E+01	6.7823E+00	1.7561E+00	3.4563E-01	3.0161E+01	2.1128E+00
9.200	3.2622E+01	6.9583E+00	1.7680E+00	3.5010E-01	3.0519E+01	2.1396E+00
9.500	3.3437E+01	7.1285E+00	1.7797E+00	3.5441E-01	3.0845E+01	2.1636E+00
9.800	3.4243E+01	7.2932E+00	1.7913E+00	3.5858E-01	3.1149E+01	2.1858E+00
10.100	3.5041E+01	7.4525E+00	1.8028E+00	3.6260E-01	3.1440E+01	2.2066E+00
10.400	3.5832E+01	7.6068E+00	1.8141E+00	3.6649E-01	3.1720E+01	2.2266E+00
24.000	6.7936E+01	1.1954E+01	2.2759E+00	4.7137E-01	4.2577E+01	2.8583E+00
48.000	9.1108E+01	1.3973E+01	2.4397E+00	4.8976E-01	4.5885E+01	3.0198E+00
72.000	1.0954E+02	1.5458E+01	2.5700E+00	5.0297E-01	4.8345E+01	3.1400E+00
96.000	1.2458E+02	1.6707E+01	2.6763E+00	5.1402E-01	5.0354E+01	3.2426E+00
240.000	1.8609E+02	2.1951E+01	2.7868E+00	5.2558E-01	5.4863E+01	3.4939E+00
720.000	2.5397E+02	2.9064E+01	2.9087E+00	5.3996E-01	5.9831E+01	3.9145E+00

```
#################################################################
                        Worst Two-Hour Doses
#################################################################
```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	1.4989E+00	9.7057E+00	1.9812E+00

Attachment 12.4c - RADTRAD Output File "DRE3MS11.o0" (GNF3 Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:58:34
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS11_GNF3.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 External Cloud Submergence Gamma Dose Rate @ CR Air Intake Due To MSIV Leakage  - Core
Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs a
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
```

```
Compartment 4:
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
```

```
Drywell to Intact Control Volume 2
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
```

```
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+00
  2.3000E+00   1.5000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  6
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  2.2000E+00   1.5000E+01
  2.3000E+00   0.0000E+00
  4.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
  1
  0
  0
  0
  0
  0
  0
  0
```

```
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
```

```
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
```

```
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
```

```
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
CR Air Intake
  7
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   1.7800E-04
  9.6000E+01   9.7600E-05
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS11_GNF3.o0
  1
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:58:34
#######################################################################
```

```
#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment
```

```
Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:58:34
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        5.298E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.635E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.859E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.648E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        2.136E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.198E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.916E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        6.662E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        7.637E+00

Inventory Power =      3016. MWt
```

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	5.706E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	9.157E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.852E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.508E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.753E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	3.435E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	4.666E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	4.257E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	4.411E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	4.800E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	4.323E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	4.463E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.828E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	5.132E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.931E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	5.119E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.165E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.569E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.536E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.280E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	2.046E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	3.080E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.613E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.040E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.581E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11
Te-127m	4	4.427E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	7.537E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.449E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.437E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.870E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.723E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.976E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.668E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.497E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.349E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10

Xe-133	1	5.393E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.675E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.741E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	2.264E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	6.235E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	5.225E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	5.072E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.106E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.773E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.685E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.776E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.676E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.835E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.607E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.865E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.572E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.699E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.479E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.748E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.884E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.063E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.599E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.817E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+00
       2.3000E+00          1.5000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       2.2000E+00          1.5000E+01
       2.3000E+00          0.0000E+00
       4.0000E+00          0.0000E+00
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
       2.0000E+00    9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
       8.0000E+00    9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
       2.4000E+01    4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
       4.8000E+01    4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
```

7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

```
  3.3300E-02    6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01    2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    2.1000E+03   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

LOCATION DATA
     Location Exclusion Area Boundary     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          2.5100E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location CR Air Intake     is in compartment   7

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          1.7800E-04
       9.6000E+01          9.7600E-05
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
       7.2000E+02                0.0000E+00
     Location Control Room     is in compartment   8

     Location X/Q Data
      Time (hr)         X/Q (s * m^-3)
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                3.5000E-04
```

```
      7.2000E+02                0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-01
      1.0000E+00       1.0000E-02
      2.0000E+00       5.0000E-01
      8.0000E+00       1.0000E+00
      2.4000E+01       2.0000E+00
      9.6000E+01       5.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 19:58:34
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

CR Air Intake Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    1.1482E+23  0.0000E+00
Elemental I (atoms)    6.3486E+20  0.0000E+00
Organic I (atoms)      1.9635E+19  0.0000E+00
Aerosols (kg)          7.6646E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4065E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8012E-04
Total I (Ci)                                   2.3572E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5541E+21
Elemental I (atoms)    0.0000E+00  1.4132E+19
Organic I (atoms)      0.0000E+00  4.3708E+17
Aerosols (kg)          0.0000E+00  1.7048E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5517E+19
Elemental I (atoms)    0.0000E+00  3.0718E+17
Organic I (atoms)      0.0000E+00  9.5006E+15
Aerosols (kg)          0.0000E+00  3.7057E-04

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
```

```
                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.5148E-04  2.2928E-02  1.2017E-03
Accumulated dose (rem)  2.5148E-04  2.2928E-02  1.2017E-03

CR Air Intake Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.3025E-03  1.1875E-01  6.2238E-03
Accumulated dose (rem)  1.3025E-03  1.1875E-01  6.2238E-03

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.0712E-06  2.1347E-02  8.9406E-04
Accumulated dose (rem)  9.0712E-06  2.1347E-02  8.9406E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.6029E+04  6.6343E-02  4.7003E+23  3.9911E+17
Kr-85m                 4.0707E+05  4.9465E-05  3.5045E+20  6.3045E+18
Kr-87                  7.7143E+05  2.7235E-05  1.8852E+20  1.2255E+19
Kr-88                  1.0984E+06  8.7601E-05  5.9948E+20  1.7111E+19
Rb-86                  3.0797E+03  3.7849E-05  2.6504E+20  4.7227E+16
I-131                  1.2414E+06  1.0014E-02  4.6033E+22  1.9040E+19
I-132                  1.7535E+06  1.6988E-04  7.7501E+20  2.7293E+19
I-133                  2.5712E+06  2.2698E-03  1.0277E+22  3.9510E+19
I-134                  2.5977E+06  9.7377E-05  4.3763E+20  4.1936E+19
I-135                  2.3977E+06  6.8275E-04  3.0457E+21  3.7015E+19
Xe-133                 2.4601E+06  1.3143E-02  5.9510E+22  3.7715E+19
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Xe-135                 1.2308E+06  4.8198E-04  2.1500E+21  1.8733E+19
Cs-134                 3.5311E+05  2.7292E-01  1.2265E+24  5.4145E+18
Cs-136                 1.0324E+05  1.4086E-03  6.2373E+21  1.5832E+18
Cs-137                 2.8442E+05  3.2698E+00  1.4373E+25  4.3611E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    5.3283E+23  0.0000E+00
Elemental I (atoms)    2.9376E+21  0.0000E+00
Organic I (atoms)      9.0852E+19  0.0000E+00
Aerosols (kg)          3.5568E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         6.5122E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.3109E-04
Total I (Ci)                                   1.0562E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6487E+19
Elemental I (atoms)    0.0000E+00  9.1074E+16
Organic I (atoms)      0.0000E+00  2.8167E+15
Aerosols (kg)          0.0000E+00  1.1005E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6487E+19
Elemental I (atoms)    0.0000E+00  9.1074E+16
Organic I (atoms)      0.0000E+00  2.8167E+15
Aerosols (kg)          0.0000E+00  1.1005E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.2296E+18
Elemental I (atoms)    0.0000E+00  4.5461E+16
Organic I (atoms)      0.0000E+00  1.4060E+15
Aerosols (kg)          0.0000E+00  5.4933E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0743E+22
Elemental I (atoms)    0.0000E+00  3.3557E+20
Organic I (atoms)      0.0000E+00  1.0378E+19
Aerosols (kg)          0.0000E+00  4.0546E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3033E+21
Elemental I (atoms)    0.0000E+00  3.4812E+19
Organic I (atoms)      0.0000E+00  1.0767E+18
Aerosols (kg)          0.0000E+00  4.2076E-02

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  2.2992E-02  5.8603E-08  4.1520E+17  8.5071E+08
Kr-85m                 3.6024E-01  4.3774E-11  3.1013E+14  1.3329E+10
Kr-87                  6.8586E-01  2.4213E-11  1.6760E+14  2.5377E+10
Kr-88                  9.7309E-01  7.7603E-11  5.3107E+14  3.6004E+10
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Rb-86	3.1026E-04	3.8131E-12	2.6701E+13	1.1480E+07
I-131	1.6941E-01	1.3665E-09	6.2817E+15	6.2680E+09
I-132	2.3794E-01	2.3052E-11	1.0517E+14	8.8039E+09
I-133	3.5100E-01	3.0985E-10	1.4030E+15	1.2987E+10
I-134	3.5791E-01	1.3417E-11	6.0296E+13	1.3243E+10
I-135	3.2760E-01	9.3284E-11	4.1612E+14	1.2121E+10
Xe-133	2.1724E+00	1.1606E-08	5.2551E+16	8.0379E+10
Xe-135	1.0786E+00	4.2238E-10	1.8841E+15	3.9909E+10
Cs-134	3.5574E-02	2.7495E-08	1.2357E+17	1.3162E+09
Cs-136	1.0401E-02	1.4191E-10	6.2839E+14	3.8483E+08
Cs-137	2.8653E-02	3.2942E-07	1.4480E+18	1.0602E+09

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	4.7064E+17	7.8425E+14
Elemental I (atoms)	2.3883E+15	3.9796E+12
Organic I (atoms)	8.0265E+13	1.3375E+11
Aerosols (kg)	3.5833E-07	5.9709E-10

Dose Effective (Ci) I-131 (Thyroid)	2.3909E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.0517E-01
Total I (Ci)	1.4439E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2427E+17
Elemental I (atoms)	1.6026E+14	2.1828E+15
Organic I (atoms)	0.0000E+00	7.2465E+13
Aerosols (kg)	2.4871E-06	3.4495E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1600E+16
Elemental I (atoms)	3.2957E+13	1.8720E+14
Organic I (atoms)	0.0000E+00	7.1044E+12
Aerosols (kg)	5.1793E-08	1.2771E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0506E+15
Elemental I (atoms)	4.0125E+12	2.2791E+13
Organic I (atoms)	0.0000E+00	8.6252E+11
Aerosols (kg)	3.2987E-09	4.0646E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3531E+14
Elemental I (atoms)	0.0000E+00	3.2286E+12
Organic I (atoms)	0.0000E+00	1.0851E+11
Aerosols (kg)	0.0000E+00	4.8366E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1551E+15
Elemental I (atoms)	0.0000E+00	5.8703E+12
Organic I (atoms)	0.0000E+00	1.9729E+11

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Aerosols (kg)          0.0000E+00  8.7938E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.7712E+14  0.0000E+00
Elemental I (atoms)    1.4107E+12  0.0000E+00
Organic I (atoms)      4.7325E+10  0.0000E+00
Aerosols (kg)          2.1304E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4896E-03  3.4518E-01  1.9643E-02
Accumulated dose (rem)  5.7410E-03  3.6810E-01  2.0844E-02

CR Air Intake Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.8432E-02  1.7878E+00  1.0174E-01
Accumulated dose (rem)  2.9734E-02  1.9065E+00  1.0796E-01

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6080E-04  8.4189E-01  3.5073E-02
Accumulated dose (rem)  4.6987E-04  8.6324E-01  3.5967E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  6.8444E+04  1.7445E-01  1.2360E+24  2.7873E+18
Kr-85m                 1.0166E+06  1.2353E-04  8.7522E+20  4.2590E+19
Kr-87                  1.6915E+06  5.9718E-05  4.1337E+20  7.6245E+19
Kr-88                  2.6628E+06  2.1235E-04  1.4532E+21  1.1341E+20
Rb-86                  1.3322E+03  1.6372E-05  1.1465E+20  1.1347E+17
I-131                  5.4081E+05  4.3623E-03  2.0054E+22  4.5869E+19
I-132                  7.5702E+05  7.3339E-05  3.3459E+20  6.5396E+19
I-133                  1.1089E+06  9.7888E-04  4.4323E+21  9.4819E+19
I-134                  8.7039E+05  3.2627E-05  1.4663E+20  9.1817E+19
I-135                  1.0097E+06  2.8751E-04  1.2826E+21  8.8030E+19
Xe-133                 6.4625E+06  3.4525E-02  1.5633E+23  2.6330E+20
Xe-135                 3.2142E+06  1.2586E-03  5.6146E+21  1.3120E+20
Cs-134                 1.5282E+05  1.1812E-01  5.3083E+23  1.3012E+19
Cs-136                 4.4647E+04  6.0918E-04  2.6975E+21  3.8037E+18
Cs-137                 1.2309E+05  1.4152E+00  6.2207E+24  1.0481E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.4007E+24  0.0000E+00
Elemental I (atoms)    1.2635E+21  7.7247E+21
Organic I (atoms)      2.3729E+20  0.0000E+00
Aerosols (kg)          1.5393E+00  9.3696E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         2.8252E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.5811E-04
Total I (Ci)                                   4.2868E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3944E+20
Elemental I (atoms)    0.0000E+00  2.8460E+17
Organic I (atoms)      0.0000E+00  2.3725E+16
Aerosols (kg)          0.0000E+00  3.4478E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3944E+20
Elemental I (atoms)	0.0000E+00	2.8460E+17
Organic I (atoms)	0.0000E+00	2.3725E+16
Aerosols (kg)	0.0000E+00	3.4478E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9602E+19
Elemental I (atoms)	0.0000E+00	1.4206E+17
Organic I (atoms)	0.0000E+00	1.1843E+16
Aerosols (kg)	0.0000E+00	1.7210E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9469E+23
Elemental I (atoms)	0.0000E+00	1.0186E+21
Organic I (atoms)	0.0000E+00	8.4173E+19
Aerosols (kg)	0.0000E+00	1.2339E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3458E+23
Elemental I (atoms)	0.0000E+00	3.8654E+20
Organic I (atoms)	0.0000E+00	2.2878E+19
Aerosols (kg)	0.0000E+00	4.6915E-01

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	7.1835E-01	1.8310E-06	1.2972E+19	2.6579E+10
Kr-85m	1.0801E+01	1.3124E-09	9.2985E+15	3.9963E+11
Kr-87	1.8551E+01	6.5493E-10	4.5334E+15	6.8640E+11
Kr-88	2.8493E+01	2.2723E-09	1.5550E+16	1.0542E+12
Rb-86	4.7890E-03	5.8856E-11	4.1214E+14	1.7719E+08
I-131	2.7282E+00	2.2006E-08	1.0116E+17	1.0094E+11
I-132	3.6374E+00	3.5238E-10	1.6077E+15	1.3458E+11
I-133	5.6129E+00	4.9549E-09	2.2435E+16	2.0768E+11
I-134	4.7998E+00	1.7993E-10	8.0861E+14	1.7759E+11
I-135	5.1509E+00	1.4667E-09	6.5428E+15	1.9058E+11
Xe-133	6.7833E+01	3.6239E-07	1.6409E+18	2.5098E+12
Xe-135	3.3689E+01	1.3192E-08	5.8848E+16	1.2465E+12
Cs-134	5.4928E-01	4.2454E-07	1.9079E+18	2.0323E+10
Cs-136	1.6051E-01	2.1901E-09	9.6977E+15	5.9390E+09
Cs-137	4.4243E-01	5.0864E-06	2.2359E+19	1.6370E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.4701E+19	8.1673E+15
Elemental I (atoms)	4.0994E+16	2.2775E+13
Organic I (atoms)	2.4935E+15	1.3853E+12
Aerosols (kg)	5.5327E-06	3.0737E-09

Dose Effective (Ci) I-131 (Thyroid)	3.8381E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	4.8701E+00
Total I (Ci)	2.1929E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1191E+19
Elemental I (atoms)	2.2653E+15	3.0854E+16
Organic I (atoms)	0.0000E+00	1.9021E+15
Aerosols (kg)	3.5310E-05	4.8973E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1022E+18
Elemental I (atoms)	1.5919E+15	9.0421E+15
Organic I (atoms)	0.0000E+00	5.2703E+14
Aerosols (kg)	2.5146E-06	6.2002E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1045E+17
Elemental I (atoms)	2.1513E+14	1.2219E+15
Organic I (atoms)	0.0000E+00	6.9727E+13
Aerosols (kg)	1.7778E-07	2.1905E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9846E+16
Elemental I (atoms)	0.0000E+00	5.5450E+13
Organic I (atoms)	0.0000E+00	3.3728E+12
Aerosols (kg)	0.0000E+00	7.4679E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6083E+16
Elemental I (atoms)	0.0000E+00	1.0082E+14
Organic I (atoms)	0.0000E+00	6.1324E+12
Aerosols (kg)	0.0000E+00	1.3578E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	2.1276E+16	0.0000E+00
Elemental I (atoms)	6.9193E+13	0.0000E+00
Organic I (atoms)	3.6145E+12	0.0000E+00
Aerosols (kg)	9.5609E-09	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3897E-03	3.0362E-01	2.0156E-02
Accumulated dose (rem)	1.3131E-02	6.7172E-01	4.1001E-02

CR Air Intake Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8273E-02	1.5725E+00	1.0439E-01
Accumulated dose (rem)	6.8008E-02	3.4790E+00	2.1235E-01

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.5154E-04	1.0100E+00	4.2452E-02
Accumulated dose (rem)	1.2214E-03	1.8732E+00	7.8419E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	2.2617E+05	5.7647E-01	4.0842E+24	7.0106E+18
Kr-85m	3.2738E+06	3.9781E-04	2.8184E+21	1.0446E+20
Kr-87	5.1041E+06	1.8019E-04	1.2473E+21	1.7568E+20
Kr-88	8.4481E+06	6.7373E-04	4.6106E+21	2.7417E+20
Rb-86	1.7253E+03	2.1204E-05	1.4848E+20	1.5101E+17
Sr-89	7.9799E+04	2.7467E-03	1.8586E+22	1.6191E+18
Sr-90	1.0844E+04	7.9495E-02	5.3192E+23	2.2000E+17
Sr-91	9.4235E+04	2.5996E-05	1.7203E+20	1.9231E+18
Sr-92	8.6440E+04	6.8770E-06	4.5015E+19	1.7902E+18
Y-90	1.2272E+02	2.2556E-07	1.5093E+18	2.2923E+15
Y-91	1.0063E+03	4.1035E-05	2.7156E+20	2.0385E+16
Y-92	2.6572E+03	2.7614E-07	1.8076E+18	2.5221E+16
Y-93	1.0718E+03	3.2126E-07	2.0803E+18	2.1866E+16
Zr-95	1.1923E+03	5.5501E-05	3.5182E+20	2.4191E+16
Zr-97	1.1150E+03	5.8328E-07	3.6213E+18	2.2697E+16
Nb-95	1.1896E+03	3.0423E-05	1.9286E+20	2.4135E+16
Mo-99	1.4900E+04	3.1066E-05	1.8897E+20	3.0255E+17
Tc-99m	1.3269E+04	2.5235E-06	1.5350E+19	2.6791E+17
Ru-103	1.3171E+04	4.0809E-04	2.3860E+21	2.6723E+17
Ru-105	8.5865E+03	1.2774E-06	7.3262E+18	1.7641E+17
Ru-106	5.9433E+03	1.7765E-03	1.0093E+22	1.2058E+17
Rh-105	8.9488E+03	1.0602E-05	6.0807E+19	1.8142E+17
Sb-127	1.5106E+04	5.6565E-05	2.6822E+20	3.0666E+17
Sb-129	4.1973E+04	7.4641E-06	3.4845E+19	8.6263E+17
Te-127	1.4995E+04	5.6819E-06	2.6942E+19	3.0327E+17
Te-127m	2.5721E+03	2.7268E-04	1.2930E+21	5.2184E+16
Te-129	4.2698E+04	2.0388E-06	9.5179E+18	8.4999E+17
Te-129m	8.4194E+03	2.7948E-04	1.3047E+21	1.7081E+17
Te-131m	3.1106E+04	3.9009E-05	1.7933E+20	6.3227E+17
Te-132	2.2352E+05	7.3625E-04	3.3590E+21	4.5382E+18
I-131	8.5903E+05	6.9291E-03	3.1853E+22	6.4319E+19
I-132	1.2168E+06	1.1788E-04	5.3779E+20	9.1696E+19
I-133	1.7524E+06	1.5470E-03	7.0047E+21	1.3255E+20
I-134	1.2124E+06	4.5448E-05	2.0425E+20	1.1962E+20
I-135	1.5768E+06	4.4899E-04	2.0029E+21	1.2218E+20
Xe-133	2.1356E+07	1.1409E-01	5.1661E+23	6.6219E+20
Xe-135	1.0719E+07	4.1972E-03	1.8723E+22	3.3165E+20
Cs-134	1.9797E+05	1.5301E-01	6.8765E+23	1.7318E+19
Cs-136	5.7816E+04	7.8886E-04	3.4931E+21	5.0616E+18
Cs-137	1.5946E+05	1.8332E+00	8.0584E+24	1.3949E+19
Ba-139	8.6839E+04	5.3090E-06	2.3001E+19	1.8349E+18
Ba-140	1.1769E+05	1.6077E-03	6.9154E+21	2.3883E+18
La-140	1.3795E+03	2.4819E-06	1.0676E+19	2.4582E+16
La-141	9.8618E+02	1.7438E-07	7.4478E+17	2.0294E+16
La-142	8.0679E+02	5.6360E-08	2.3902E+17	1.6974E+16
Ce-141	2.7746E+03	9.7378E-05	4.1590E+20	5.6294E+16
Ce-143	2.6790E+03	4.0341E-06	1.6989E+19	5.4444E+16
Ce-144	2.2280E+03	6.9854E-04	2.9213E+21	4.5203E+16
Pr-143	1.0710E+03	1.5905E-05	6.6979E+19	2.1721E+16
Nd-147	4.3266E+02	5.3482E-06	2.1910E+19	8.7800E+15
Np-239	3.2110E+04	1.3841E-04	3.4875E+20	6.5210E+17
Pu-238	9.8712E+00	5.7660E-04	1.4590E+21	2.0027E+14
Pu-239	8.5937E-01	1.3826E-02	3.4837E+22	1.7435E+13
Pu-240	1.5966E+00	7.0067E-03	1.7581E+22	3.2392E+13
Pu-241	3.4186E+02	3.3186E-03	8.2926E+21	6.9358E+15
Am-241	2.4706E-01	7.1984E-05	1.7987E+20	5.0124E+12
Cm-242	6.0393E+01	1.8222E-05	4.5345E+19	1.2253E+15

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Cm-244                 4.2227E+00  5.2195E-05  1.2882E+20  8.5672E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    4.6282E+24  0.0000E+00
Elemental I (atoms)    2.0032E+21  1.2222E+22
Organic I (atoms)      3.6193E+20  0.0000E+00
Aerosols (kg)          2.1092E+00  1.4242E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.4788E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.6622E-04
Total I (Ci)                                   6.6174E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3120E+20
Elemental I (atoms)    0.0000E+00  3.9727E+17
Organic I (atoms)      0.0000E+00  4.2591E+16
Aerosols (kg)          0.0000E+00  4.6684E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3120E+20
Elemental I (atoms)    0.0000E+00  3.9727E+17
Organic I (atoms)      0.0000E+00  4.2591E+16
Aerosols (kg)          0.0000E+00  4.6684E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6532E+20
Elemental I (atoms)    0.0000E+00  1.9830E+17
Organic I (atoms)      0.0000E+00  2.1260E+16
Aerosols (kg)          0.0000E+00  2.3303E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1715E+24
Elemental I (atoms)    0.0000E+00  1.4163E+21
Organic I (atoms)      0.0000E+00  1.5076E+20
Aerosols (kg)          0.0000E+00  1.6647E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2083E+23
Elemental I (atoms)    0.0000E+00  6.2100E+20
Organic I (atoms)      0.0000E+00  4.9445E+19
Aerosols (kg)          0.0000E+00  7.4917E-01

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  7.9190E-06  2.4904E-13  2.5858E+12  2.9300E+05
Co-60                  9.4804E-06  8.3869E-12  8.4178E+13  3.5077E+05
Kr-85                  1.8685E+00  4.7625E-06  3.3742E+19  6.9135E+10
Kr-85m                 2.7534E+01  3.3458E-09  2.3704E+16  1.0188E+12
Kr-87                  4.4980E+01  1.5880E-09  1.0992E+16  1.6643E+12
Kr-88                  7.1801E+01  5.7261E-09  3.9186E+16  2.6566E+12
Rb-86                  8.5189E-03  1.0470E-10  7.3314E+14  3.1520E+08
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Sr-89	1.4231E-02	4.8984E-10	3.3145E+15	5.2655E+08
Sr-90	1.9338E-03	1.4177E-08	9.4860E+16	7.1551E+07
Sr-91	1.6827E-02	4.6419E-12	3.0719E+13	6.2259E+08
Sr-92	1.5484E-02	1.2319E-12	8.0638E+12	5.7292E+08
Y-90	2.2806E-05	4.1917E-14	2.8048E+11	8.4381E+05
Y-91	1.7962E-04	7.3243E-12	4.8470E+13	6.6459E+06
Y-92	6.1044E-04	6.3440E-14	4.1527E+11	2.2586E+07
Y-93	1.9138E-04	5.7361E-14	3.7144E+11	7.0809E+06
Zr-95	2.1263E-04	9.8977E-12	6.2743E+13	7.8674E+06
Zr-97	1.9899E-04	1.0409E-13	6.4626E+11	7.3628E+06
Nb-95	2.1215E-04	5.4255E-12	3.4393E+13	7.8497E+06
Mo-99	2.6576E-03	5.5411E-12	3.3706E+13	9.8331E+07
Tc-99m	2.3664E-03	4.5003E-13	2.7375E+12	8.7555E+07
Ru-103	2.3488E-03	7.2777E-11	4.2551E+14	8.6905E+07
Ru-105	1.5355E-03	2.2842E-13	1.3101E+12	5.6812E+07
Ru-106	1.0599E-03	3.1681E-10	1.7999E+15	3.9216E+07
Rh-105	1.5959E-03	1.8907E-12	1.0844E+13	5.9048E+07
Sb-127	2.6942E-03	1.0089E-11	4.7839E+13	9.9686E+07
Sb-129	7.5063E-03	1.3348E-12	6.2314E+12	2.7773E+08
Te-127	2.6741E-03	1.0133E-12	4.8048E+12	9.8943E+07
Te-127m	4.5869E-04	4.8629E-11	2.3059E+14	1.6972E+07
Te-129	7.6220E-03	3.6395E-13	1.6990E+12	2.8201E+08
Te-129m	1.5015E-03	4.9841E-11	2.3267E+14	5.5554E+07
Te-131m	5.5495E-03	6.9594E-12	3.1993E+13	2.0533E+08
Te-132	3.9868E-02	1.3132E-10	5.9911E+14	1.4751E+09
I-131	4.9805E+00	4.0173E-08	1.8468E+17	1.8428E+11
I-132	6.5192E+00	6.3157E-10	2.8814E+15	2.4121E+11
I-133	1.0214E+01	9.0161E-09	4.0824E+16	3.7790E+11
I-134	8.0748E+00	3.0269E-10	1.3603E+15	2.9877E+11
I-135	9.3015E+00	2.6486E-09	1.1815E+16	3.4416E+11
Xe-133	1.7638E+02	9.4227E-07	4.2665E+18	6.5259E+12
Xe-135	8.7432E+01	3.4237E-08	1.5273E+17	3.2350E+12
Cs-134	9.7725E-01	7.5532E-07	3.3945E+18	3.6158E+10
Cs-136	2.8551E-01	3.8956E-09	1.7250E+16	1.0564E+10
Cs-137	7.8714E-01	9.0495E-06	3.9779E+19	2.9124E+10
Ba-139	1.5624E-02	9.5520E-13	4.1384E+12	5.7809E+08
Ba-140	2.0990E-02	2.8671E-10	1.2333E+15	7.7662E+08
La-140	2.6190E-04	4.7119E-13	2.0268E+12	9.6903E+06
La-141	1.7641E-04	3.1194E-14	1.3323E+11	6.5273E+06
La-142	1.4502E-04	1.0131E-14	4.2964E+10	5.3658E+06
Ce-141	4.9480E-04	1.7365E-11	7.4168E+13	1.8308E+07
Ce-143	4.7793E-04	7.1968E-13	3.0308E+12	1.7683E+07
Ce-144	3.9733E-04	1.2457E-10	5.2097E+14	1.4701E+07
Pr-143	1.9102E-04	2.8368E-12	1.1946E+13	7.0679E+06
Nd-147	7.7163E-05	9.5382E-13	3.9075E+12	2.8550E+06
Np-239	5.7275E-03	2.4688E-11	6.2208E+13	2.1192E+08
Pu-238	1.7604E-06	1.0283E-10	2.6019E+14	6.5134E+04
Pu-239	1.5325E-07	2.4656E-09	6.2127E+15	5.6704E+03
Pu-240	2.8473E-07	1.2495E-09	3.1353E+15	1.0535E+04
Pu-241	6.0965E-05	5.9182E-10	1.4788E+15	2.2557E+06
Am-241	4.4060E-08	1.2837E-11	3.2078E+13	1.6302E+03
Cm-242	1.0770E-05	3.2496E-12	8.0867E+12	3.9850E+05
Cm-244	7.5305E-07	9.3081E-12	2.2973E+13	2.7863E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	3.8235E+19	1.5930E+16
Elemental I (atoms)	7.6074E+16	3.1696E+13
Organic I (atoms)	6.0505E+15	2.5209E+12
Aerosols (kg)	9.8639E-06	4.1098E-09

Dose Effective (Ci) I-131 (Thyroid)	6.9967E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.8571E+00
Total I (Ci)	3.9089E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7844E+19
Elemental I (atoms)    3.9259E+15  5.3470E+16
Organic I (atoms)      0.0000E+00  4.3465E+15
Aerosols (kg)          6.0922E-05  8.4495E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1450E+18
Elemental I (atoms)    3.5083E+15  1.9927E+16
Organic I (atoms)      0.0000E+00  1.5082E+15
Aerosols (kg)          5.5449E-06  1.3672E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2550E+18
Elemental I (atoms)    4.9944E+14  2.8368E+15
Organic I (atoms)      0.0000E+00  2.0758E+14
Aerosols (kg)          4.1312E-07  5.0904E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1615E+16
Elemental I (atoms)    0.0000E+00  1.0288E+14
Organic I (atoms)      0.0000E+00  8.1826E+12
Aerosols (kg)          0.0000E+00  1.3314E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3845E+16
Elemental I (atoms)    0.0000E+00  1.8706E+14
Organic I (atoms)      0.0000E+00  1.4877E+13
Aerosols (kg)          0.0000E+00  2.4208E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    6.3395E+16  0.0000E+00
Elemental I (atoms)    1.5367E+14  0.0000E+00
Organic I (atoms)      1.0466E+13  0.0000E+00
Aerosols (kg)          2.0452E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.2965E-01  6.6452E+00  9.5739E-01
Accumulated dose (rem)  6.4278E-01  7.3169E+00  9.9839E-01

CR Air Intake Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.2612E+00  3.4417E+01  4.9586E+00
Accumulated dose (rem)  3.3292E+00  3.7896E+01  5.1710E+00

Control Room Doses:
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Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4193E-02	7.3227E+00	3.8383E-01
Accumulated dose (rem)	5.5414E-02	9.1959E+00	4.6225E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	1.1640E+06	2.9669E+00	2.1020E+25	1.3581E+20
Kr-85m	1.3708E+07	1.6657E-03	1.1801E+22	1.7538E+21
Kr-87	1.2700E+07	4.4837E-04	3.1036E+21	2.0901E+21
Kr-88	3.1401E+07	2.5043E-03	1.7137E+22	4.2451E+21
Rb-86	1.7996E+03	2.2117E-05	1.5488E+20	4.6806E+17
Sr-89	9.1362E+04	3.1447E-03	2.1279E+22	1.7492E+19
Sr-90	1.2424E+04	9.1084E-02	6.0946E+23	2.3778E+18
Sr-91	9.7963E+04	2.7024E-05	1.7884E+20	1.9782E+19
Sr-92	7.0422E+04	5.6027E-06	3.6674E+19	1.6336E+19
Y-90	1.4147E+02	2.6002E-07	1.7399E+18	2.6130E+16
Y-91	1.1525E+03	4.6996E-05	3.1101E+20	2.2048E+17
Y-92	2.5264E+03	2.6256E-07	1.7187E+18	4.2151E+17
Y-93	1.1207E+03	3.3591E-07	2.1752E+18	2.2558E+17
Zr-95	1.3653E+03	6.3553E-05	4.0287E+20	2.6137E+17
Zr-97	1.2096E+03	6.3275E-07	3.9284E+18	2.3855E+17
Nb-95	1.3631E+03	3.4858E-05	2.2097E+20	2.6086E+17
Mo-99	1.6834E+04	3.5099E-05	2.1351E+20	3.2465E+18
Tc-99m	1.5166E+04	2.8842E-06	1.7545E+19	2.9010E+18
Ru-103	1.5076E+04	4.6712E-04	2.7311E+21	2.8867E+18
Ru-105	7.9895E+03	1.1886E-06	6.8168E+18	1.7171E+18
Ru-106	6.8090E+03	2.0352E-03	1.1563E+22	1.3032E+18
Rh-105	1.0218E+04	1.2106E-05	6.9431E+19	1.9592E+18
Sb-127	1.7136E+04	6.4166E-05	3.0426E+20	3.2974E+18
Sb-129	3.8830E+04	6.9050E-06	3.2235E+19	8.3727E+18
Te-127	1.7167E+04	6.5047E-06	3.0844E+19	3.2828E+18
Te-127m	2.9471E+03	3.1244E-04	1.4815E+21	5.6400E+17
Te-129	4.3722E+04	2.0877E-06	9.7461E+18	8.8586E+18
Te-129m	9.6466E+03	3.2022E-04	1.4949E+21	1.8462E+18
Te-131m	3.4559E+04	4.3340E-05	1.9923E+20	6.7265E+18
Te-132	2.5310E+05	8.3367E-04	3.8034E+21	4.8751E+19
I-131	9.2672E+05	7.4750E-03	3.4363E+22	2.2593E+20
I-132	1.3099E+06	1.2690E-04	5.7895E+20	3.2121E+20
I-133	1.8157E+06	1.6028E-03	7.2576E+21	4.5561E+20
I-134	4.5763E+05	1.7155E-05	7.7096E+19	2.6022E+20
I-135	1.4851E+06	4.2288E-04	1.8864E+21	3.9941E+20
Xe-133	1.0957E+08	5.8535E-01	2.6504E+24	1.2802E+22
Xe-135	5.4399E+07	2.1302E-02	9.5023E+22	6.4008E+21
Cs-134	2.0692E+05	1.5993E-01	7.1873E+23	5.3736E+19
Cs-136	6.0255E+04	8.2214E-04	3.6405E+21	1.5682E+19
Cs-137	1.6667E+05	1.9162E+00	8.4231E+24	4.3283E+19
Ba-139	5.0888E+04	3.1111E-06	1.3479E+19	1.4377E+19
Ba-140	1.3445E+05	1.8365E-03	7.8996E+21	2.5772E+19
La-140	1.5952E+03	2.8699E-06	1.2345E+19	2.8904E+17
La-141	8.9316E+02	1.5793E-07	6.7453E+17	1.9493E+17
La-142	5.0760E+02	3.5459E-08	1.5038E+17	1.3731E+17
Ce-141	3.1783E+03	1.1155E-04	4.7642E+20	6.0835E+17
Ce-143	2.9847E+03	4.4945E-06	1.8928E+19	5.8005E+17
Ce-144	2.5524E+03	8.0026E-04	3.3467E+21	4.8851E+17
Pr-143	1.2271E+03	1.8223E-05	7.6742E+19	2.3481E+17
Nd-147	4.9400E+02	6.1064E-06	2.5016E+19	9.4722E+16
Np-239	3.6194E+04	1.5601E-04	3.9311E+20	6.9890E+18
Pu-238	1.1310E+01	6.6067E-04	1.6717E+21	2.1645E+15
Pu-239	9.8480E-01	1.5844E-02	3.9922E+22	1.8845E+14
Pu-240	1.8293E+00	8.0281E-03	2.0144E+22	3.5009E+14
Pu-241	3.9169E+02	3.8023E-03	9.5013E+21	7.4961E+16
Am-241	2.8311E-01	8.2489E-05	2.0612E+20	5.4177E+13
Cm-242	6.9181E+01	2.0874E-05	5.1943E+19	1.3241E+16
Cm-244	4.8382E+00	5.9803E-05	1.4760E+20	9.2593E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.3797E+25	0.0000E+00	
Elemental I (atoms)	2.0886E+21	5.3875E+22	
Organic I (atoms)	1.1648E+21	0.0000E+00	
Aerosols (kg)	2.2159E+00	5.8088E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7590E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9129E-04
Total I (Ci)			5.9951E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6445E+21
Elemental I (atoms)	0.0000E+00	1.4408E+18
Organic I (atoms)	0.0000E+00	4.3150E+17
Aerosols (kg)	0.0000E+00	1.5653E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6445E+21
Elemental I (atoms)	0.0000E+00	1.4408E+18
Organic I (atoms)	0.0000E+00	4.3150E+17
Aerosols (kg)	0.0000E+00	1.5653E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8158E+21
Elemental I (atoms)	0.0000E+00	7.1918E+17
Organic I (atoms)	0.0000E+00	2.1539E+17
Aerosols (kg)	0.0000E+00	7.8134E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6983E+25
Elemental I (atoms)	0.0000E+00	5.0993E+21
Organic I (atoms)	0.0000E+00	1.5234E+21
Aerosols (kg)	0.0000E+00	5.5416E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5606E+25
Elemental I (atoms)	0.0000E+00	3.7318E+21
Organic I (atoms)	0.0000E+00	9.3498E+20
Aerosols (kg)	0.0000E+00	4.1212E+00

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.1788E-03	3.7072E-11	3.8491E+14	4.3616E+07
Co-60	1.4117E-03	1.2489E-09	1.2535E+16	5.2233E+07
Kr-85	1.5021E+02	3.8287E-04	2.7126E+21	5.5579E+12
Kr-85m	1.8874E+03	2.2934E-07	1.6248E+18	6.9832E+13
Kr-87	2.0835E+03	7.3557E-08	5.0916E+17	7.7091E+13
Kr-88	4.4934E+03	3.5835E-07	2.4523E+18	1.6626E+14
Rb-86	7.4412E-02	9.1451E-10	6.4039E+15	2.7532E+09
Sr-89	2.1181E+00	7.2906E-08	4.9331E+17	7.8369E+10

Sr-90	2.8796E-01	2.1110E-06	1.4126E+19	1.0655E+10
Sr-91	2.3517E+00	6.4874E-10	4.2932E+15	8.7012E+10
Sr-92	1.8510E+00	1.4726E-10	9.6393E+14	6.8485E+10
Y-90	4.6951E-03	8.6296E-12	5.7743E+13	1.7372E+08
Y-91	2.6945E-02	1.0987E-09	7.2711E+15	9.9698E+08
Y-92	2.2917E-01	2.3816E-11	1.5589E+14	8.4791E+09
Y-93	2.6847E-02	8.0468E-12	5.2107E+13	9.9333E+08
Zr-95	3.1650E-02	1.4733E-09	9.3393E+15	1.1711E+09
Zr-97	2.8592E-02	1.4957E-11	9.2857E+13	1.0579E+09
Nb-95	3.1592E-02	8.0791E-10	5.1214E+15	1.1689E+09
Mo-99	3.9213E-01	8.1759E-10	4.9734E+15	1.4509E+10
Tc-99m	3.5188E-01	6.6921E-11	4.0708E+14	1.3020E+10
Ru-103	3.4953E-01	1.0830E-08	6.3321E+16	1.2933E+10
Ru-105	1.9977E-01	2.9719E-11	1.7045E+14	7.3916E+09
Ru-106	1.5782E-01	4.7172E-08	2.6800E+17	5.8393E+09
Rh-105	2.3721E-01	2.8103E-10	1.6118E+15	8.7766E+09
Sb-127	3.9858E-01	1.4925E-09	7.0772E+15	1.4747E+10
Sb-129	9.7301E-01	1.7303E-10	8.0775E+14	3.6001E+10
Te-127	3.9802E-01	1.5082E-10	7.1515E+14	1.4727E+10
Te-127m	6.8305E-02	7.2414E-09	3.4337E+16	2.5273E+09
Te-129	1.0608E+00	5.0651E-11	2.3646E+14	3.9248E+10
Te-129m	2.2359E-01	7.4219E-09	3.4648E+16	8.2727E+09
Te-131m	8.0989E-01	1.0157E-09	4.6690E+15	2.9966E+10
Te-132	5.8909E+00	1.9404E-08	8.8526E+16	2.1796E+11
I-131	5.4067E+01	4.3611E-07	2.0048E+18	2.0005E+12
I-132	6.5298E+01	6.3260E-09	2.8861E+16	2.4160E+12
I-133	1.0799E+02	9.5330E-08	4.3164E+17	3.9956E+12
I-134	4.6445E+01	1.7410E-09	7.8245E+15	1.7185E+12
I-135	9.2428E+01	2.6319E-08	1.1740E+17	3.4198E+12
Xe-133	1.4136E+04	7.5518E-05	3.4194E+20	5.2301E+14
Xe-135	6.8758E+03	2.6925E-06	1.2011E+19	2.5440E+14
Cs-134	8.5471E+00	6.6060E-06	2.9688E+19	3.1624E+11
Cs-136	2.4925E+00	3.4009E-08	1.5059E+17	9.2223E+10
Cs-137	6.8846E+00	7.9149E-05	3.4792E+20	2.5473E+11
Ba-139	1.5212E+00	9.3001E-11	4.0293E+14	5.6285E+10
Ba-140	3.1194E+00	4.2610E-08	1.8329E+17	1.1542E+11
La-140	6.1308E-02	1.1030E-10	4.7446E+14	2.2684E+09
La-141	2.2559E-02	3.9889E-12	1.7037E+13	8.3467E+08
La-142	1.4750E-02	1.0304E-12	4.3697E+12	5.4573E+08
Ce-141	7.3657E-02	2.5851E-09	1.1041E+16	2.7253E+09
Ce-143	6.9876E-02	1.0522E-10	4.4312E+14	2.5854E+09
Ce-144	5.9160E-02	1.8548E-08	7.7571E+16	2.1889E+09
Pr-143	2.8483E-02	4.2298E-10	1.7813E+15	1.0539E+09
Nd-147	1.1464E-02	1.4171E-10	5.8053E+14	4.2416E+08
Np-239	8.4380E-01	3.6372E-09	9.1647E+15	3.1220E+10
Pu-238	2.6214E-04	1.5312E-08	3.8744E+16	9.6991E+06
Pu-239	2.2823E-05	3.6719E-07	9.2522E+17	8.4447E+05
Pu-240	4.2398E-05	1.8607E-07	4.6688E+17	1.5687E+06
Pu-241	9.0782E-03	8.8127E-08	2.2021E+17	3.3589E+08
Am-241	6.5619E-06	1.9119E-09	4.7774E+15	2.4279E+05
Cm-242	1.6035E-03	4.8383E-10	1.2040E+15	5.9331E+07
Cm-244	1.1214E-04	1.3861E-09	3.4209E+15	4.1490E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.0711E+21	4.2654E+17	
Elemental I (atoms)	8.3846E+17	1.1645E+14	
Organic I (atoms)	1.9877E+17	2.7607E+13	
Aerosols (kg)	8.9144E-05	1.2381E-08	
Dose Effective (Ci) I-131 (Thyroid)			7.5154E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			9.3768E+01
Total I (Ci)			3.6623E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7689E+21
Elemental I (atoms)    3.4100E+16  4.6444E+17
Organic I (atoms)      0.0000E+00  1.1102E+17
Aerosols (kg)          4.9023E-04  6.7991E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1143E+21
Elemental I (atoms)    5.5348E+16  3.1438E+17
Organic I (atoms)      0.0000E+00  7.4702E+16
Aerosols (kg)          8.1681E-05  2.0140E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8801E+20
Elemental I (atoms)    1.0585E+16  6.0122E+16
Organic I (atoms)      0.0000E+00  1.3117E+16
Aerosols (kg)          8.2502E-06  1.0166E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.4011E+18
Elemental I (atoms)    8.3389E+14  1.1131E+14
Organic I (atoms)      2.1077E+14  1.0312E+13
Aerosols (kg)          8.6678E-08  1.4190E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.2886E+17
Elemental I (atoms)    0.0000E+00  3.7190E+14
Organic I (atoms)      0.0000E+00  6.1596E+13
Aerosols (kg)          0.0000E+00  4.3421E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    1.8601E+18  0.0000E+00
Elemental I (atoms)    3.7221E+14  0.0000E+00
Organic I (atoms)      4.3543E+13  0.0000E+00
Aerosols (kg)          4.6195E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2606E-01  9.0357E-01  1.7165E-01
Accumulated dose (rem)  7.6884E-01  8.2205E+00  1.1700E+00

CR Air Intake Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.3235E-01  3.8159E+00  7.2490E-01
Accumulated dose (rem)  3.8615E+00  4.1712E+01  5.8959E+00

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	2.0562E-02	1.1105E+00	7.5004E-02
Accumulated dose (rem)	7.5976E-02	1.0306E+01	5.3725E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	1.1009E+06	2.8059E+00	1.9879E+25	1.6549E+20
Kr-85m	1.2569E+07	1.5273E-03	1.0821E+22	2.0979E+21
Kr-87	1.0771E+07	3.8024E-04	2.6320E+21	2.3970E+21
Kr-88	2.8283E+07	2.2555E-03	1.5435E+22	5.0266E+21
Rb-86	1.8489E+02	2.2722E-06	1.5911E+19	4.7666E+17
Sr-89	9.1756E+03	3.1583E-04	2.1371E+21	1.7923E+19
Sr-90	1.2480E+03	9.1487E-03	6.1217E+22	2.4364E+18
Sr-91	9.6972E+03	2.6751E-06	1.7703E+19	2.0241E+19
Sr-92	6.7207E+03	5.3469E-07	3.4999E+18	1.6662E+19
Y-90	1.9839E+01	3.6464E-08	2.4399E+17	2.6893E+16
Y-91	1.1662E+02	4.7554E-06	3.1470E+19	2.2594E+17
Y-92	8.1319E+02	8.4510E-08	5.5319E+17	4.4316E+17
Y-93	1.1103E+02	3.3280E-08	2.1550E+17	2.3084E+17
Zr-95	1.3712E+02	6.3829E-06	4.0462E+19	2.6782E+17
Zr-97	1.2050E+02	6.3036E-08	3.9135E+17	2.4424E+17
Nb-95	1.3691E+02	3.5012E-06	2.2195E+19	2.6729E+17
Mo-99	1.6873E+03	3.5181E-06	2.1400E+19	3.3259E+18
Tc-99m	1.5227E+03	2.8958E-07	1.7615E+18	2.9722E+18
Ru-103	1.5140E+03	4.6912E-05	2.7428E+20	2.9579E+18
Ru-105	7.7782E+02	1.1571E-07	6.6365E+17	1.7543E+18
Ru-106	6.8391E+02	2.0442E-04	1.1614E+21	1.3353E+18
Rh-105	1.0254E+03	1.2148E-06	6.9676E+18	2.0074E+18
Sb-127	1.7186E+03	6.4353E-06	3.0515E+19	3.3782E+18
Sb-129	3.7770E+03	6.7166E-07	3.1355E+18	8.5537E+18
Te-127	1.7240E+03	6.5325E-07	3.0976E+18	3.3635E+18
Te-127m	2.9602E+02	3.1383E-05	1.4881E+20	5.7791E+17
Te-129	4.3128E+03	2.0594E-07	9.6138E+17	9.0584E+18
Te-129m	9.6892E+02	3.2163E-05	1.5015E+20	1.8917E+18
Te-131m	3.4552E+03	4.3331E-06	1.9920E+19	6.8894E+18
Te-132	2.5377E+04	8.3588E-05	3.8135E+20	4.9945E+19
I-131	1.1548E+05	9.3147E-04	4.2820E+21	2.3085E+20
I-132	1.4818E+05	1.4356E-05	6.5494E+19	3.2783E+20
I-133	2.2494E+05	1.9856E-04	8.9908E+20	4.6525E+20
I-134	4.8724E+04	1.8265E-06	8.2084E+18	2.6250E+20
I-135	1.8136E+05	5.1643E-05	2.3037E+20	4.0724E+20
Xe-133	1.0349E+08	5.5290E-01	2.5035E+24	1.5594E+22
Xe-135	5.0536E+07	1.9789E-02	8.8276E+22	7.7744E+21
Cs-134	2.1264E+04	1.6435E-02	7.3861E+22	5.4725E+19
Cs-136	6.1895E+03	8.4451E-05	3.7395E+20	1.5970E+19
Cs-137	1.7128E+04	1.9692E-01	8.6561E+23	4.4080E+19
Ba-139	4.6223E+03	2.8259E-07	1.2243E+18	1.4608E+19
Ba-140	1.3498E+04	1.8438E-04	7.9310E+20	2.6407E+19
La-140	2.5682E+02	4.6206E-07	1.9875E+18	2.9820E+17
La-141	8.6603E+01	1.5313E-08	6.5404E+16	1.9909E+17
La-142	4.6600E+01	3.2553E-09	1.3806E+16	1.3962E+17
Ce-141	3.1917E+02	1.1202E-05	4.7842E+19	6.2335E+17
Ce-143	2.9854E+02	4.4955E-07	1.8932E+18	5.9411E+17
Ce-144	2.5637E+02	8.0379E-05	3.3615E+20	5.0056E+17
Pr-143	1.2342E+02	1.8328E-06	7.7182E+18	2.4060E+17
Nd-147	4.9593E+01	6.1303E-07	2.5114E+18	9.7054E+16
Np-239	3.6265E+03	1.5632E-05	3.9389E+19	7.1596E+18
Pu-238	1.1361E+00	6.6360E-05	1.6791E+20	2.2179E+15
Pu-239	9.8919E-02	1.5915E-03	4.0100E+21	1.9310E+14
Pu-240	1.8374E-01	8.0636E-04	2.0233E+21	3.5873E+14
Pu-241	3.9343E+01	3.8192E-04	9.5434E+20	7.6810E+16
Am-241	2.8439E-02	8.2861E-06	2.0705E+19	5.5514E+13
Cm-242	6.9485E+00	2.0965E-06	5.2172E+18	1.3568E+16
Cm-244	4.8597E-01	6.0068E-06	1.4825E+19	9.4877E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.2000	Atmosphere	Sump	
Noble gases (atoms)	2.2500E+25	0.0000E+00	
Elemental I (atoms)	2.1278E+20	5.5928E+22	
Organic I (atoms)	1.1046E+21	0.0000E+00	
Aerosols (kg)	2.2741E-01	6.0269E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.9144E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.3181E-05
Total I (Ci)			7.1868E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6619E+21
Elemental I (atoms)	0.0000E+00	1.4709E+18
Organic I (atoms)	0.0000E+00	4.8143E+17
Aerosols (kg)	0.0000E+00	1.5974E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6619E+21
Elemental I (atoms)	0.0000E+00	1.4709E+18
Organic I (atoms)	0.0000E+00	4.8143E+17
Aerosols (kg)	0.0000E+00	1.5974E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3260E+21
Elemental I (atoms)	0.0000E+00	7.3431E+17
Organic I (atoms)	0.0000E+00	2.4042E+17
Aerosols (kg)	0.0000E+00	7.9741E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3105E+25
Elemental I (atoms)	0.0000E+00	5.2808E+21
Organic I (atoms)	0.0000E+00	1.8238E+21
Aerosols (kg)	0.0000E+00	5.7345E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0439E+25
Elemental I (atoms)	0.0000E+00	4.2175E+21
Organic I (atoms)	0.0000E+00	1.1791E+21
Aerosols (kg)	0.0000E+00	4.6403E+00

Environment Integral Nuclide Release:

Time (h) = 2.2000	Ci	kg	Atoms	Bq
Co-58	1.3651E-03	4.2930E-11	4.4574E+14	5.0508E+07
Co-60	1.6348E-03	1.4463E-09	1.4516E+16	6.0489E+07
Kr-85	1.8406E+02	4.6913E-04	3.3238E+21	6.8101E+12
Kr-85m	2.2767E+03	2.7665E-07	1.9600E+18	8.4238E+13
Kr-87	2.4237E+03	8.5564E-08	5.9227E+17	8.9675E+13
Kr-88	5.3733E+03	4.2852E-07	2.9325E+18	1.9881E+14
Rb-86	8.2595E-02	1.0151E-09	7.1081E+15	3.0560E+09
Sr-89	2.4528E+00	8.4426E-08	5.7126E+17	9.0752E+10
Sr-90	3.3348E-01	2.4447E-06	1.6358E+19	1.2339E+10

Sr-91	2.7067E+00	7.4667E-10	4.9413E+15	1.0015E+11
Sr-92	2.0993E+00	1.6701E-10	1.0932E+15	7.7673E+10
Y-90	5.5995E-03	1.0292E-11	6.8867E+13	2.0718E+08
Y-91	3.1228E-02	1.2734E-09	8.4268E+15	1.1554E+09
Y-92	2.7804E-01	2.8895E-11	1.8914E+14	1.0287E+10
Y-93	3.0911E-02	9.2649E-12	5.9994E+13	1.1437E+09
Zr-95	3.6652E-02	1.7061E-09	1.0815E+16	1.3561E+09
Zr-97	3.2997E-02	1.7261E-11	1.0716E+14	1.2209E+09
Nb-95	3.6585E-02	9.3561E-10	5.9309E+15	1.3537E+09
Mo-99	4.5371E-01	9.4598E-10	5.7544E+15	1.6787E+10
Tc-99m	4.0743E-01	7.7484E-11	4.7133E+14	1.5075E+10
Ru-103	4.0476E-01	1.2541E-08	7.3326E+16	1.4976E+10
Ru-105	2.2837E-01	3.3973E-11	1.9485E+14	8.4496E+09
Ru-106	1.8276E-01	5.4628E-08	3.1036E+17	6.7622E+09
Rh-105	2.7462E-01	3.2535E-10	1.8660E+15	1.0161E+10
Sb-127	4.6128E-01	1.7273E-09	8.1907E+15	1.7068E+10
Sb-129	1.1119E+00	1.9773E-10	9.2304E+14	4.1140E+10
Te-127	4.6091E-01	1.7465E-10	8.2814E+14	1.7054E+10
Te-127m	7.9102E-02	8.3860E-09	3.9765E+16	2.9268E+09
Te-129	1.2188E+00	5.8197E-11	2.7168E+14	4.5095E+10
Te-129m	2.5893E-01	8.5950E-09	4.0124E+16	9.5803E+09
Te-131m	9.3606E-01	1.1739E-09	5.3964E+15	3.4634E+10
Te-132	6.8169E+00	2.2454E-08	1.0244E+17	2.5223E+11
I-131	6.0768E+01	4.9017E-07	2.2533E+18	2.2484E+12
I-132	7.2771E+01	7.0500E-09	3.2164E+16	2.6925E+12
I-133	1.2107E+02	1.0687E-07	4.8391E+17	4.4795E+12
I-134	4.9389E+01	1.8514E-09	8.3204E+15	1.8274E+12
I-135	1.0301E+02	2.9332E-08	1.3084E+17	3.8113E+12
Xe-133	1.7314E+04	9.2497E-05	4.1882E+20	6.4061E+14
Xe-135	8.3918E+03	3.2861E-06	1.4659E+19	3.1049E+14
Cs-134	9.4882E+00	7.3334E-06	3.2957E+19	3.5106E+11
Cs-136	2.7665E+00	3.7747E-08	1.6714E+17	1.0236E+11
Cs-137	7.6427E+00	8.7865E-05	3.8623E+20	2.8278E+11
Ba-139	1.6942E+00	1.0357E-10	4.4873E+14	6.2684E+10
Ba-140	3.6118E+00	4.9336E-08	2.1222E+17	1.3364E+11
La-140	7.3776E-02	1.3273E-10	5.7095E+14	2.7297E+09
La-141	2.5746E-02	4.5524E-12	1.9443E+13	9.5259E+08
La-142	1.6488E-02	1.1518E-12	4.8848E+12	6.1007E+08
Ce-141	8.5297E-02	2.9936E-09	1.2786E+16	3.1560E+09
Ce-143	8.0777E-02	1.2164E-10	5.1225E+14	2.9887E+09
Ce-144	6.8511E-02	2.1480E-08	8.9831E+16	2.5349E+09
Pr-143	3.2989E-02	4.8990E-10	2.0631E+15	1.2206E+09
Nd-147	1.3273E-02	1.6407E-10	6.7214E+14	4.9110E+08
Np-239	9.7615E-01	4.2077E-09	1.0602E+16	3.6118E+10
Pu-238	3.0358E-04	1.7733E-08	4.4869E+16	1.1232E+07
Pu-239	2.6431E-05	4.2524E-07	1.0715E+18	9.7796E+05
Pu-240	4.9100E-05	2.1548E-07	5.4068E+17	1.8167E+06
Pu-241	1.0513E-02	1.0206E-07	2.5502E+17	3.8899E+08
Am-241	7.5993E-06	2.2141E-09	5.5327E+15	2.8117E+05
Cm-242	1.8570E-03	5.6030E-10	1.3943E+15	6.8709E+07
Cm-244	1.2986E-04	1.6052E-09	3.9617E+15	4.8049E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	3.7627E+21	4.7509E+17
Elemental I (atoms)	9.4057E+17	1.1876E+14
Organic I (atoms)	2.3671E+17	2.9888E+13
Aerosols (kg)	9.9106E-05	1.2513E-08

Dose Effective (Ci) I-131 (Thyroid)	8.4385E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.0516E+02
Total I (Ci)	4.0700E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1330E+21
Elemental I (atoms)    3.7786E+16  5.1463E+17
Organic I (atoms)      0.0000E+00  1.3048E+17
Aerosols (kg)          5.4187E-04  7.5153E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3907E+21
Elemental I (atoms)    6.2835E+16  3.5690E+17
Organic I (atoms)      0.0000E+00  9.0231E+16
Aerosols (kg)          9.2409E-05  2.2785E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3921E+20
Elemental I (atoms)    1.2273E+16  6.9713E+16
Organic I (atoms)      0.0000E+00  1.6135E+16
Aerosols (kg)          9.5353E-06  1.1749E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.0239E+18
Elemental I (atoms)    9.2507E+14  1.1223E+14
Organic I (atoms)      2.4465E+14  1.0654E+13
Aerosols (kg)          9.5559E-08  1.4279E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6554E+17
Elemental I (atoms)    0.0000E+00  3.9211E+14
Organic I (atoms)      0.0000E+00  6.9107E+13
Aerosols (kg)          0.0000E+00  4.5389E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    2.6265E+18  0.0000E+00
Elemental I (atoms)    4.0516E+14  0.0000E+00
Organic I (atoms)      5.2422E+13  0.0000E+00
Aerosols (kg)          4.9663E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.6322E-02  4.5179E-01  8.9024E-02
Accumulated dose (rem)  8.3516E-01  8.6723E+00  1.2591E+00

CR Air Intake Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.8009E-01  1.9080E+00  3.7596E-01
Accumulated dose (rem)  4.1416E+00  4.3620E+01  6.2718E+00

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.9831E-03  5.1123E-01  3.5164E-02
```

Accumulated dose (rem) 8.5959E-02 1.0818E+01 5.7241E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	1.0819E+06	2.7577E+00	1.9538E+25	1.7990E+20
Kr-85m	1.2164E+07	1.4780E-03	1.0472E+22	2.2612E+21
Kr-87	1.0024E+07	3.5388E-04	2.4496E+21	2.5342E+21
Kr-88	2.7126E+07	2.1633E-03	1.4804E+22	5.3924E+21
Rb-86	1.1589E+02	1.4243E-06	9.9735E+18	4.7821E+17
Sr-89	5.7005E+03	1.9622E-04	1.3277E+21	1.7999E+19
Sr-90	7.7535E+02	5.6841E-03	3.8034E+22	2.4467E+18
Sr-91	5.9811E+03	1.6500E-06	1.0919E+19	2.0321E+19
Sr-92	4.0701E+03	3.2381E-07	2.1196E+18	1.6717E+19
Y-90	1.3886E+01	2.5523E-08	1.7078E+17	2.7066E+16
Y-91	7.2693E+01	2.9642E-06	1.9616E+19	2.2690E+17
Y-92	6.4968E+02	6.7517E-08	4.4196E+17	4.5081E+17
Y-93	6.8513E+01	2.0536E-08	1.3298E+17	2.3175E+17
Zr-95	8.5191E+01	3.9655E-06	2.5138E+19	2.6895E+17
Zr-97	7.4563E+01	3.9004E-08	2.4215E+17	2.4524E+17
Nb-95	8.5062E+01	2.1753E-06	1.3790E+19	2.6842E+17
Mo-99	1.0472E+03	2.1835E-06	1.3282E+19	3.3398E+18
Tc-99m	9.4583E+02	1.7988E-07	1.0942E+18	2.9847E+18
Ru-103	9.4060E+02	2.9144E-05	1.7040E+20	2.9704E+18
Ru-105	4.7578E+02	7.0779E-08	4.0594E+17	1.7607E+18
Ru-106	4.2491E+02	1.2701E-04	7.2155E+20	1.3410E+18
Rh-105	6.3677E+02	7.5442E-07	4.3269E+18	2.0159E+18
Sb-127	1.0670E+03	3.9953E-06	1.8945E+19	3.3924E+18
Sb-129	2.3093E+03	4.1066E-07	1.9171E+18	8.5847E+18
Te-127	1.0710E+03	4.0583E-07	1.9244E+18	3.3777E+18
Te-127m	1.8392E+02	1.9498E-05	9.2457E+19	5.8036E+17
Te-129	2.6546E+03	1.2676E-07	5.9175E+17	9.0930E+18
Te-129m	6.0198E+02	1.9983E-05	9.3285E+19	1.8997E+18
Te-131m	2.1418E+03	2.6860E-06	1.2347E+19	6.9179E+18
Te-132	1.5753E+04	5.1888E-05	2.3672E+20	5.0155E+19
I-131	8.0589E+04	6.5004E-04	2.9883E+21	2.3193E+20
I-132	9.8984E+04	9.5895E-06	4.3749E+19	3.2916E+20
I-133	1.5651E+05	1.3816E-04	6.2559E+20	4.6733E+20
I-134	3.1430E+04	1.1782E-06	5.2949E+18	2.6294E+20
I-135	1.2530E+05	3.5678E-05	1.5915E+20	4.0892E+20
Xe-133	1.0165E+08	5.4308E-01	2.4590E+24	1.6948E+22
Xe-135	4.9249E+07	1.9285E-02	8.6028E+22	8.4329E+21
Cs-134	1.3331E+04	1.0303E-02	4.6304E+22	5.4902E+19
Cs-136	3.8794E+03	5.2932E-05	2.3439E+20	1.6021E+19
Cs-137	1.0738E+04	1.2345E-01	5.4266E+23	4.4223E+19
Ba-139	2.7310E+03	1.6696E-07	7.2336E+17	1.4645E+19
Ba-140	8.3844E+03	1.1453E-04	4.9264E+20	2.6518E+19
La-140	1.8630E+02	3.3518E-07	1.4418E+18	3.0049E+17
La-141	5.2866E+01	9.3479E-09	3.9925E+16	1.9980E+17
La-142	2.7680E+01	1.9336E-09	8.2004E+15	1.4000E+17
Ce-141	1.9828E+02	6.9589E-06	2.9722E+19	6.2599E+17
Ce-143	1.8509E+02	2.7872E-07	1.1738E+18	5.9658E+17
Ce-144	1.5928E+02	4.9939E-05	2.0885E+20	5.0268E+17
Pr-143	7.6723E+01	1.1394E-06	4.7981E+18	2.4163E+17
Nd-147	3.0804E+01	3.8078E-07	1.5599E+18	9.7464E+16
Np-239	2.2504E+03	9.7004E-06	2.4442E+19	7.1896E+18
Pu-238	7.0583E-01	4.1229E-05	1.0432E+20	2.2273E+15
Pu-239	6.1459E-02	9.8878E-04	2.4915E+21	1.9392E+14
Pu-240	1.1416E-01	5.0100E-04	1.2571E+21	3.6025E+14
Pu-241	2.4444E+01	2.3729E-04	5.9294E+20	7.7135E+16
Am-241	1.7670E-02	5.1484E-06	1.2865E+19	5.5749E+13
Cm-242	4.3171E+00	1.3026E-06	3.2414E+18	1.3625E+16
Cm-244	3.0193E-01	3.7320E-06	9.2110E+18	9.5279E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.3000    Atmosphere     Sump
Noble gases (atoms)    2.2110E+25  0.0000E+00
Elemental I (atoms)    1.3290E+20  5.6172E+22
Organic I (atoms)      1.0860E+21  0.0000E+00
Aerosols (kg)          1.4249E-01  6.0530E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.1221E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.0909E-05
Total I (Ci)                                   4.9281E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1533E+21
Elemental I (atoms)    0.0000E+00  1.4745E+18
Organic I (atoms)      0.0000E+00  5.0558E+17
Aerosols (kg)          0.0000E+00  1.6012E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1533E+21
Elemental I (atoms)    0.0000E+00  1.4745E+18
Organic I (atoms)      0.0000E+00  5.0558E+17
Aerosols (kg)          0.0000E+00  1.6012E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.5724E+21
Elemental I (atoms)    0.0000E+00  7.3611E+17
Organic I (atoms)      0.0000E+00  2.5253E+17
Aerosols (kg)          0.0000E+00  7.9933E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.6062E+25
Elemental I (atoms)    0.0000E+00  5.3024E+21
Organic I (atoms)      0.0000E+00  1.9691E+21
Aerosols (kg)          0.0000E+00  5.7576E+00
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3010E+25
Elemental I (atoms)    0.0000E+00  4.4076E+21
Organic I (atoms)      0.0000E+00  1.3077E+21
Aerosols (kg)          0.0000E+00  4.8440E+00
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3000       Ci           kg          Atoms          Bq
Co-58                  1.4575E-03  4.5835E-11  4.7591E+14  5.3926E+07
Co-60                  1.7455E-03  1.5442E-09  1.5499E+16  6.4584E+07
Kr-85                  2.0254E+02  5.1625E-04  3.6575E+21  7.4940E+12
Kr-85m                 2.4845E+03  3.0190E-07  2.1389E+18  9.1927E+13
Kr-87                  2.5949E+03  9.1610E-08  6.3412E+17  9.6011E+13
Kr-88                  5.8368E+03  4.6548E-07  3.1854E+18  2.1596E+14
Rb-86                  8.6626E-02  1.0646E-09  7.4551E+15  3.2052E+09
Sr-89                  2.6187E+00  9.0139E-08  6.0992E+17  9.6893E+10
Sr-90                  3.5605E-01  2.6102E-06  1.7466E+19  1.3174E+10
Sr-91                  2.8808E+00  7.9471E-10  5.2592E+15  1.0659E+11
```

Sr-92	2.2178E+00	1.7644E-10	1.1550E+15	8.2057E+10
Y-90	6.0808E-03	1.1177E-11	7.4786E+13	2.2499E+08
Y-91	3.3357E-02	1.3602E-09	9.0013E+15	1.2342E+09
Y-92	3.0479E-01	3.1675E-11	2.0734E+14	1.1277E+10
Y-93	3.2905E-02	9.8628E-12	6.3866E+13	1.2175E+09
Zr-95	3.9132E-02	1.8216E-09	1.1547E+16	1.4479E+09
Zr-97	3.5167E-02	1.8396E-11	1.1421E+14	1.3012E+09
Nb-95	3.9062E-02	9.9895E-10	6.3324E+15	1.4453E+09
Mo-99	4.8420E-01	1.0096E-09	6.1411E+15	1.7915E+10
Tc-99m	4.3497E-01	8.2721E-11	5.0319E+14	1.6094E+10
Ru-103	4.3214E-01	1.3390E-08	7.8287E+16	1.5989E+10
Ru-105	2.4222E-01	3.6034E-11	2.0667E+14	8.9621E+09
Ru-106	1.9513E-01	5.8326E-08	3.3137E+17	7.2200E+09
Rh-105	2.9315E-01	3.4732E-10	1.9920E+15	1.0847E+10
Sb-127	4.9235E-01	1.8436E-09	8.7423E+15	1.8217E+10
Sb-129	1.1791E+00	2.0968E-10	9.7886E+14	4.3627E+10
Te-127	4.9209E-01	1.8646E-10	8.8417E+14	1.8207E+10
Te-127m	8.4457E-02	8.9537E-09	4.2457E+16	3.1249E+09
Te-129	1.2961E+00	6.1888E-11	2.8891E+14	4.7955E+10
Te-129m	2.7645E-01	9.1768E-09	4.2840E+16	1.0229E+10
Te-131m	9.9842E-01	1.2521E-09	5.7559E+15	3.6942E+10
Te-132	7.2756E+00	2.3965E-08	1.0933E+17	2.6920E+11
I-131	6.4126E+01	5.1725E-07	2.3778E+18	2.3727E+12
I-132	7.6402E+01	7.4018E-09	3.3769E+16	2.8269E+12
I-133	1.2759E+02	1.1263E-07	5.0998E+17	4.7208E+12
I-134	5.0699E+01	1.9005E-09	8.5411E+15	1.8759E+12
I-135	1.0823E+02	3.0819E-08	1.3748E+17	4.0045E+12
Xe-133	1.9048E+04	1.0176E-04	4.6078E+20	7.0479E+14
Xe-135	9.2129E+03	3.6076E-06	1.6093E+19	3.4088E+14
Cs-134	9.9519E+00	7.6918E-06	3.4568E+19	3.6822E+11
Cs-136	2.9014E+00	3.9588E-08	1.7530E+17	1.0735E+11
Cs-137	8.0162E+00	9.2159E-05	4.0511E+20	2.9660E+11
Ba-139	1.7737E+00	1.0844E-10	4.6979E+14	6.5626E+10
Ba-140	3.8559E+00	5.2670E-08	2.2656E+17	1.4267E+11
La-140	8.0518E-02	1.4486E-10	6.2313E+14	2.9792E+09
La-141	2.7285E-02	4.8246E-12	2.0606E+13	1.0095E+09
La-142	1.7294E-02	1.2081E-12	5.1236E+12	6.3989E+08
Ce-141	9.1069E-02	3.1962E-09	1.3651E+16	3.3696E+09
Ce-143	8.6165E-02	1.2975E-10	5.4642E+14	3.1881E+09
Ce-144	7.3149E-02	2.2934E-08	9.5912E+16	2.7065E+09
Pr-143	3.5225E-02	5.2311E-10	2.2030E+15	1.3033E+09
Nd-147	1.4170E-02	1.7516E-10	7.1756E+14	5.2428E+08
Np-239	1.0417E+00	4.4901E-09	1.1314E+16	3.8542E+10
Pu-238	3.2413E-04	1.8933E-08	4.7906E+16	1.1993E+07
Pu-239	2.8221E-05	4.5403E-07	1.1440E+18	1.0442E+06
Pu-240	5.2424E-05	2.3006E-07	5.7728E+17	1.9397E+06
Pu-241	1.1225E-02	1.0897E-07	2.7229E+17	4.1532E+08
Am-241	8.1137E-06	2.3640E-09	5.9073E+15	3.0021E+05
Cm-242	1.9827E-03	5.9822E-10	1.4887E+15	7.3359E+07
Cm-244	1.3865E-04	1.7138E-09	4.2298E+15	5.1301E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s
Noble gases (atoms)	4.1404E+21	5.0005E+17
Elemental I (atoms)	9.9161E+17	1.1976E+14
Organic I (atoms)	2.5715E+17	3.1056E+13
Aerosols (kg)	1.0402E-04	1.2562E-08

Dose Effective (Ci) I-131 (Thyroid)	8.9003E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1085E+02
Total I (Ci)	4.2705E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.3287E+21
Elemental I (atoms)    3.9567E+16  5.3889E+17
Organic I (atoms)      0.0000E+00  1.4083E+17
Aerosols (kg)          5.6688E-04  7.8623E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5438E+21
Elemental I (atoms)    6.6676E+16  3.7872E+17
Organic I (atoms)      0.0000E+00  9.8683E+16
Aerosols (kg)          9.7913E-05  2.4143E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6809E+20
Elemental I (atoms)    1.3162E+16  7.4760E+16
Organic I (atoms)      0.0000E+00  1.7805E+16
Aerosols (kg)          1.0211E-05  1.2582E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3640E+18
Elemental I (atoms)    9.7064E+14  1.1269E+14
Organic I (atoms)      2.6290E+14  1.0838E+13
Aerosols (kg)          9.9936E-08  1.4324E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0402E+18
Elemental I (atoms)    0.0000E+00  4.0222E+14
Organic I (atoms)      0.0000E+00  7.3151E+13
Aerosols (kg)          0.0000E+00  4.6359E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    3.0124E+18  0.0000E+00
Elemental I (atoms)    4.2030E+14  0.0000E+00
Organic I (atoms)      5.6770E+13  0.0000E+00
Aerosols (kg)          5.1242E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2929E+00  7.2349E+00  1.6466E+00
Accumulated dose (rem)  2.1281E+00  1.5907E+01  2.9057E+00

CR Air Intake Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4602E+00  3.0554E+01  6.9539E+00
Accumulated dose (rem)  9.6018E+00  7.4174E+01  1.3226E+01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7768E-01  6.6886E+00  5.0750E-01
Accumulated dose (rem)  2.6364E-01  1.7506E+01  1.0799E+00
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	1.0337E+06	2.6346E+00	1.8666E+25	4.1559E+20
Kr-85m	8.9331E+06	1.0855E-03	7.6906E+21	4.5926E+21
Kr-87	3.7913E+06	1.3385E-04	9.2648E+20	3.9610E+21
Kr-88	1.7115E+07	1.3649E-03	9.3404E+21	1.0234E+22
Rb-86	1.4135E+02	1.7372E-06	1.2165E+19	5.2984E+17
Sr-89	6.9388E+03	2.3884E-04	1.6161E+21	2.0532E+19
Sr-90	9.4470E+02	6.9256E-03	4.6341E+22	2.7914E+18
Sr-91	6.4374E+03	1.7758E-06	1.1752E+19	2.2838E+19
Sr-92	3.2105E+03	2.5542E-07	1.6719E+18	1.8216E+19
Y-90	3.4217E+01	6.2891E-08	4.2082E+17	3.5955E+16
Y-91	9.0969E+01	3.7094E-06	2.4548E+19	2.5960E+17
Y-92	1.7301E+03	1.7980E-07	1.1769E+18	9.1306E+17
Y-93	7.4285E+01	2.2266E-08	1.4418E+17	2.6067E+17
Zr-95	1.0372E+02	4.8280E-06	3.0605E+19	3.0681E+17
Zr-97	8.4730E+01	4.4323E-08	2.7517E+17	2.7737E+17
Nb-95	1.0364E+02	2.6504E-06	1.6801E+19	3.0623E+17
Mo-99	1.2534E+03	2.6134E-06	1.5897E+19	3.8016E+18
Tc-99m	1.1465E+03	2.1803E-07	1.3263E+18	3.4019E+18
Ru-103	1.1446E+03	3.5466E-05	2.0736E+20	3.3882E+18
Ru-105	4.4457E+02	6.6136E-08	3.7932E+17	1.9490E+18
Ru-106	5.1765E+02	1.5473E-04	8.7904E+20	1.5298E+18
Rh-105	7.6712E+02	9.0885E-07	5.2126E+18	2.2974E+18
Sb-127	1.2835E+03	4.8062E-06	2.2790E+19	3.8640E+18
Sb-129	2.1420E+03	3.8091E-07	1.7782E+18	9.4956E+18
Te-127	1.3024E+03	4.9351E-07	2.3401E+18	3.8517E+18
Te-127m	2.2409E+02	2.3757E-05	1.1265E+20	6.6211E+17
Te-129	2.7025E+03	1.2904E-07	6.0242E+17	1.0160E+19
Te-129m	7.3319E+02	2.4338E-05	1.1362E+20	2.1672E+18
Te-131m	2.5091E+03	3.1466E-06	1.4465E+19	7.8534E+18
Te-132	1.8906E+04	6.2275E-05	2.8411E+20	5.7110E+19
I-131	1.0111E+05	8.1556E-04	3.7492E+21	2.6386E+20
I-132	8.3122E+04	8.0527E-06	3.6738E+19	3.6154E+20
I-133	1.8666E+05	1.6478E-04	7.4611E+20	5.2791E+20
I-134	1.0345E+04	3.8778E-07	1.7427E+18	2.7010E+20
I-135	1.3232E+05	3.7678E-05	1.6808E+20	4.5481E+20
Xe-133	9.6205E+07	5.1396E-01	2.3272E+24	3.8989E+22
Xe-135	4.1265E+07	1.6159E-02	7.2082E+22	1.8483E+22
Cs-134	1.6301E+04	1.2599E-02	5.6623E+22	6.0848E+19
Cs-136	4.7265E+03	6.4490E-05	2.8556E+20	1.7749E+19
Cs-137	1.3132E+04	1.5097E-01	6.6363E+23	4.9012E+19
Ba-139	1.4153E+03	8.6523E-08	3.7486E+17	1.5495E+19
Ba-140	1.0176E+04	1.3901E-04	5.9794E+20	3.0239E+19
La-140	5.2085E+02	9.3707E-07	4.0308E+18	4.2956E+17
La-141	4.7726E+01	8.4391E-09	3.6043E+16	2.2041E+17
La-142	1.5704E+01	1.0970E-09	4.6525E+15	1.4892E+17
Ce-141	2.4131E+02	8.4688E-06	3.6171E+19	7.1408E+17
Ce-143	2.1761E+02	3.2769E-07	1.3800E+18	6.7755E+17
Ce-144	1.9404E+02	6.0836E-05	2.5442E+20	5.7347E+17
Pr-143	9.3954E+01	1.3952E-06	5.8758E+18	2.7580E+17
Nd-147	3.7365E+01	4.6187E-07	1.8922E+18	1.1113E+17
Np-239	2.6854E+03	1.1575E-05	2.9166E+19	8.1806E+18
Pu-238	8.6001E-01	5.0235E-05	1.2711E+20	2.5411E+15
Pu-239	7.4898E-02	1.2050E-03	3.0363E+21	2.2124E+14
Pu-240	1.3909E-01	6.1042E-04	1.5317E+21	4.1099E+14
Pu-241	2.9782E+01	2.8911E-04	7.2244E+20	8.8000E+16
Am-241	2.1539E-02	6.2756E-06	1.5682E+19	6.3605E+13
Cm-242	5.2584E+00	1.5866E-06	3.9482E+18	1.5544E+16
Cm-244	3.6788E-01	4.5472E-06	1.1223E+19	1.0870E+15

Sprayed Drywell Transport Group Inventory:
Time (h) = 4.0000 Atmosphere Sump

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Noble gases (atoms)    2.1083E+25  0.0000E+00
Elemental I (atoms)    5.8420E+20  5.6172E+22
Organic I (atoms)      1.0167E+21  0.0000E+00
Aerosols (kg)          1.7420E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.0747E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.1404E-05
Total I (Ci)                                   5.1356E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7127E+22
Elemental I (atoms)    0.0000E+00  1.6662E+18
Organic I (atoms)      0.0000E+00  8.9447E+17
Aerosols (kg)          0.0000E+00  1.7063E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7127E+22
Elemental I (atoms)    0.0000E+00  1.6662E+18
Organic I (atoms)      0.0000E+00  8.9447E+17
Aerosols (kg)          0.0000E+00  1.7063E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.5706E+21
Elemental I (atoms)    0.0000E+00  8.3223E+17
Organic I (atoms)      0.0000E+00  4.4754E+17
Aerosols (kg)          0.0000E+00  8.5204E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.4040E+25
Elemental I (atoms)    0.0000E+00  6.4558E+21
Organic I (atoms)      0.0000E+00  4.3092E+21
Aerosols (kg)          0.0000E+00  6.3901E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.0022E+25
Elemental I (atoms)    0.0000E+00  6.0260E+21
Organic I (atoms)      0.0000E+00  3.6060E+21
Aerosols (kg)          0.0000E+00  6.2233E+00

Environment Integral Nuclide Release:

Time (h) =   4.0000       Ci           kg         Atoms         Bq
Co-58                  2.8457E-03  8.9494E-11  9.2922E+14  1.0529E+08
Co-60                  3.4092E-03  3.0159E-09  3.0271E+16  1.2614E+08
Kr-85                  6.5339E+02  1.6654E-03  1.1799E+22  2.4175E+13
Kr-85m                 6.8558E+03  8.3308E-07  5.9023E+18  2.5367E+14
Kr-87                  5.1376E+03  1.8138E-07  1.2555E+18  1.9009E+14
Kr-88                  1.4810E+04  1.1811E-06  8.0825E+18  5.4796E+14
Rb-86                  1.4581E-01  1.7919E-09  1.2548E+16  5.3948E+09
Sr-89                  5.1125E+00  1.7598E-07  1.1907E+18  1.8916E+11
Sr-90                  6.9541E-01  5.0981E-06  3.4113E+19  2.5730E+10
Sr-91                  5.3406E+00  1.4733E-09  9.7498E+15  1.9760E+11
Sr-92                  3.6578E+00  2.9101E-10  1.9049E+15  1.3534E+11
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Y-90	1.6263E-02	2.9891E-11	2.0001E+14	6.0172E+08
Y-91	6.5771E-02	2.6819E-09	1.7748E+16	2.4335E+09
Y-92	8.7056E-01	9.0473E-11	5.9222E+14	3.2211E+10
Y-93	6.1186E-02	1.8339E-11	1.1875E+14	2.2639E+09
Zr-95	7.6405E-02	3.5565E-09	2.2545E+16	2.8270E+09
Zr-97	6.6675E-02	3.4878E-11	2.1654E+14	2.4670E+09
Nb-95	7.6292E-02	1.9510E-09	1.2368E+16	2.8228E+09
Mo-99	9.3843E-01	1.9566E-09	1.1902E+16	3.4722E+10
Tc-99m	8.4794E-01	1.6126E-10	9.8094E+14	3.1374E+10
Ru-103	8.4357E-01	2.6138E-08	1.5282E+17	3.1212E+10
Ru-105	4.2477E-01	6.3190E-11	3.6242E+14	1.5716E+10
Ru-106	3.8110E-01	1.1391E-07	6.4716E+17	1.4101E+10
Rh-105	5.7040E-01	6.7578E-10	3.8759E+15	2.1105E+10
Sb-127	9.5633E-01	3.5811E-09	1.6981E+16	3.5384E+10
Sb-129	2.0620E+00	3.6668E-10	1.7118E+15	7.6294E+10
Te-127	9.6044E-01	3.6393E-10	1.7257E+15	3.5536E+10
Te-127m	1.6495E-01	1.7488E-08	8.2924E+16	6.1033E+09
Te-129	2.3610E+00	1.1274E-10	5.2631E+14	8.7358E+10
Te-129m	5.3989E-01	1.7921E-08	8.3663E+16	1.9976E+10
Te-131m	1.9174E+00	2.4046E-09	1.1054E+16	7.0945E+10
Te-132	1.4118E+01	4.6503E-08	2.1216E+17	5.2236E+11
I-131	1.1854E+02	9.5618E-07	4.3956E+18	4.3861E+12
I-132	1.2556E+02	1.2164E-08	5.5495E+16	4.6456E+12
I-133	2.3056E+02	2.0353E-07	9.2155E+17	8.5306E+12
I-134	6.2079E+01	2.3271E-09	1.0458E+16	2.2969E+12
I-135	1.8569E+02	5.2877E-08	2.3587E+17	6.8707E+12
Xe-133	6.1154E+04	3.2671E-04	1.4793E+21	2.2627E+15
Xe-135	2.8023E+04	1.0973E-05	4.8950E+19	1.0368E+15
Cs-134	1.6768E+01	1.2960E-05	5.8244E+19	6.2042E+11
Cs-136	4.8814E+00	6.6603E-08	2.9492E+17	1.8061E+11
Cs-137	1.3507E+01	1.5528E-04	6.8259E+20	4.9976E+11
Ba-139	2.5718E+00	1.5723E-10	6.8120E+14	9.5158E+10
Ba-140	7.5185E+00	1.0270E-07	4.4176E+17	2.7818E+11
La-140	2.3195E-01	4.1731E-10	1.7951E+15	8.5822E+09
La-141	4.7233E-02	8.3519E-12	3.5671E+13	1.7476E+09
La-142	2.5714E-02	1.7963E-12	7.6181E+12	9.5143E+08
Ce-141	1.7779E-01	6.2398E-09	2.6650E+16	6.5784E+09
Ce-143	1.6573E-01	2.4956E-10	1.0510E+15	6.1320E+09
Ce-144	1.4286E-01	4.4790E-08	1.8731E+17	5.2857E+09
Pr-143	6.8921E-02	1.0235E-09	4.3102E+15	2.5501E+09
Nd-147	2.7622E-02	3.4144E-10	1.3988E+15	1.0220E+09
Np-239	2.0163E+00	8.6913E-09	2.1900E+16	7.4603E+10
Pu-238	6.3306E-04	3.6978E-08	9.3567E+16	2.3423E+07
Pu-239	5.5123E-05	8.8685E-07	2.2346E+18	2.0396E+06
Pu-240	1.0239E-04	4.4934E-07	1.1275E+18	3.7884E+06
Pu-241	2.1923E-02	2.1282E-07	5.3180E+17	8.1117E+08
Am-241	1.5850E-05	4.6180E-09	1.1539E+16	5.8644E+05
Cm-242	3.8719E-03	1.1682E-09	2.9072E+15	1.4326E+08
Cm-244	2.7080E-04	3.3473E-09	8.2613E+15	1.0020E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.3343E+22	9.2657E+17	
Elemental I (atoms)	1.7954E+18	1.2468E+14	
Organic I (atoms)	7.2925E+17	5.0642E+13	
Aerosols (kg)	1.7627E-04	1.2241E-08	
Dose Effective (Ci) I-131 (Thyroid)			1.6311E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0120E+02
Total I (Ci)			7.2243E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7064E+21

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Elemental I (atoms)    6.5330E+16  8.8978E+17
Organic I (atoms)      0.0000E+00  3.6293E+17
Aerosols (kg)          9.1859E-04  1.2740E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5111E+21
Elemental I (atoms)    1.2908E+17  7.3316E+17
Organic I (atoms)      0.0000E+00  3.0352E+17
Aerosols (kg)          1.8646E-04  4.5976E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1263E+21
Elemental I (atoms)    3.0708E+16  1.7442E+17
Organic I (atoms)      0.0000E+00  6.3675E+16
Aerosols (kg)          2.3519E-05  2.8980E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2651E+19
Elemental I (atoms)    1.6883E+15  1.1994E+14
Organic I (atoms)      6.8439E+14  1.5096E+13
Aerosols (kg)          1.6435E-07  1.4974E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8588E+18
Elemental I (atoms)    0.0000E+00  5.6129E+14
Organic I (atoms)      0.0000E+00  1.6658E+14
Aerosols (kg)          0.0000E+00  6.0637E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   4.0000     Filtered   Transported
Noble gases (atoms)    1.1564E+19  0.0000E+00
Elemental I (atoms)    6.1604E+14  0.0000E+00
Organic I (atoms)      1.4281E+14  0.0000E+00
Aerosols (kg)          7.0269E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7204E+00  1.3354E+01  3.3110E+00
Accumulated dose (rem)  4.8485E+00  2.9261E+01  6.2167E+00

CR Air Intake Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1488E+01  5.6395E+01  1.3983E+01
Accumulated dose (rem)  2.1090E+01  1.3057E+02  2.7208E+01

Control Room Doses:

Time (h) =   8.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.1090E-01  1.1127E+01  9.1568E-01
Accumulated dose (rem)  6.7454E-01  2.8633E+01  1.9956E+00
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60	5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85	1.0321E+06	2.6307E+00	1.8638E+25	9.6587E+20
Kr-85m	4.8037E+06	5.8372E-04	4.1356E+21	8.1387E+21
Kr-87	4.2781E+05	1.5103E-05	1.0455E+20	4.7823E+21
Kr-88	6.4378E+06	5.1341E-04	3.5134E+21	1.6051E+22
Rb-86	1.7301E+02	2.1263E-06	1.4890E+19	6.2125E+17
Sr-89	8.5263E+03	2.9348E-04	1.9858E+21	2.5028E+19
Sr-90	1.1635E+03	8.5294E-03	5.7073E+22	3.4042E+18
Sr-91	5.9214E+03	1.6335E-06	1.0810E+19	2.6454E+19
Sr-92	1.4214E+03	1.1308E-07	7.4021E+17	1.9513E+19
Y-90	8.9709E+01	1.6489E-07	1.1033E+18	7.0567E+16
Y-91	1.1751E+02	4.7917E-06	3.1710E+19	3.2011E+17
Y-92	2.2441E+03	2.3322E-07	1.5266E+18	2.1417E+18
Y-93	6.9526E+01	2.0839E-08	1.3494E+17	3.0275E+17
Zr-95	1.2751E+02	5.9353E-06	3.7625E+19	3.7403E+17
Zr-97	8.8564E+01	4.6328E-08	2.8762E+17	3.2802E+17
Nb-95	1.2764E+02	3.2641E-06	2.0692E+19	3.7346E+17
Mo-99	1.4802E+03	3.0862E-06	1.8773E+19	4.5977E+18
Tc-99m	1.3839E+03	2.6318E-07	1.6009E+18	4.1347E+18
Ru-103	1.4056E+03	4.3551E-05	2.5463E+20	4.1297E+18
Ru-105	2.9323E+02	4.3622E-08	2.5019E+17	2.1628E+18
Ru-106	6.3733E+02	1.9050E-04	1.0823E+21	1.8656E+18
Rh-105	9.0414E+02	1.0712E-06	6.1437E+18	2.7848E+18
Sb-127	1.5340E+03	5.7443E-06	2.7239E+19	4.6841E+18
Sb-129	1.3885E+03	2.4692E-07	1.1527E+18	1.0518E+19
Te-127	1.5908E+03	6.0276E-07	2.8582E+18	4.6904E+18
Te-127m	2.7599E+02	2.9260E-05	1.3874E+20	8.0749E+17
Te-129	2.0973E+03	1.0015E-07	4.6752E+17	1.1526E+19
Te-129m	9.0136E+02	2.9920E-05	1.3968E+20	2.6425E+18
Te-131m	2.8174E+03	3.5332E-06	1.6242E+19	9.4074E+18
Te-132	2.2474E+04	7.4026E-05	3.3772E+20	6.9158E+19
I-131	1.1491E+05	9.2686E-04	4.2608E+21	3.2503E+20
I-132	4.4950E+04	4.3548E-06	1.9867E+19	3.9589E+20
I-133	1.8830E+05	1.6622E-04	7.5264E+20	6.3434E+20
I-134	5.0451E+02	1.8912E-08	8.4993E+16	2.7198E+20
I-135	1.0026E+05	2.8550E-05	1.2736E+20	5.2056E+20
Xe-133	9.3973E+07	5.0204E-01	2.2732E+24	8.9645E+22
Xe-135	3.0400E+07	1.1904E-02	5.3102E+22	3.7425E+22
Cs-134	2.0074E+04	1.5515E-02	6.9726E+22	7.1423E+19
Cs-136	5.7700E+03	7.8727E-05	3.4861E+20	2.0802E+19
Cs-137	1.6173E+04	1.8593E-01	8.1731E+23	5.7532E+19
Ba-139	2.3318E+02	1.4256E-08	6.1763E+16	1.5885E+19
Ba-140	1.2420E+04	1.6965E-04	7.2976E+20	3.6811E+19
La-140	1.4295E+03	2.5719E-06	1.1063E+19	9.7419E+17
La-141	2.9029E+01	5.1330E-09	2.1923E+16	2.4254E+17
La-142	3.2020E+00	2.2368E-10	9.4863E+14	1.5360E+17
Ce-141	2.9629E+02	1.0398E-05	4.4412E+19	8.7039E+17
Ce-143	2.4641E+02	3.7105E-07	1.5626E+18	8.1290E+17
Ce-144	2.3888E+02	7.4895E-05	3.1321E+20	6.9933E+17
Pr-143	1.1691E+02	1.7362E-06	7.3115E+18	3.3707E+17
Nd-147	4.5537E+01	5.6288E-07	2.3060E+18	1.3524E+17
Np-239	3.1489E+03	1.3573E-05	3.4201E+19	9.8803E+18
Pu-238	1.0592E+00	6.1870E-05	1.5655E+20	3.0990E+15
Pu-239	9.2286E-02	1.4847E-03	3.7411E+21	2.6984E+14
Pu-240	1.7131E-01	7.5179E-04	1.8864E+21	5.0123E+14
Pu-241	3.6679E+01	3.5606E-04	8.8973E+20	1.0732E+17
Am-241	2.6554E-02	7.7368E-06	1.9333E+19	7.7585E+13
Cm-242	6.4716E+00	1.9526E-06	4.8591E+18	1.8954E+16
Cm-244	4.5306E-01	5.6001E-06	1.3822E+19	1.3256E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump
Noble gases (atoms)	2.0972E+25	0.0000E+00

```
Elemental I (atoms)    5.5712E+20  5.6172E+22
Organic I (atoms)      9.6680E+20  0.0000E+00
Aerosols (kg)          2.1449E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.5545E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   6.5131E-05
Total I (Ci)                                   4.4892E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5665E+22
Elemental I (atoms)    0.0000E+00  2.1697E+18
Organic I (atoms)      0.0000E+00  1.7683E+18
Aerosols (kg)          0.0000E+00  1.8929E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5665E+22
Elemental I (atoms)    0.0000E+00  2.1697E+18
Organic I (atoms)      0.0000E+00  1.7683E+18
Aerosols (kg)          0.0000E+00  1.8929E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7866E+22
Elemental I (atoms)    0.0000E+00  1.0847E+18
Organic I (atoms)      0.0000E+00  8.8572E+17
Aerosols (kg)          0.0000E+00  9.4559E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9559E+26
Elemental I (atoms)    0.0000E+00  9.4852E+21
Organic I (atoms)      0.0000E+00  9.5674E+21
Aerosols (kg)          0.0000E+00  7.5127E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8159E+26
Elemental I (atoms)    0.0000E+00  9.0574E+21
Organic I (atoms)      0.0000E+00  8.8650E+21
Aerosols (kg)          0.0000E+00  7.3867E+00

Environment Integral Nuclide Release:

Time (h) =   8.0000       Ci           kg         Atoms         Bq
Co-58                  4.7736E-03  1.5012E-10  1.5587E+15  1.7662E+08
Co-60                  5.7218E-03  5.0619E-09  5.0805E+16  2.1171E+08
Kr-85                  2.3454E+03  5.9782E-03  4.2355E+22  8.6782E+13
Kr-85m                 1.7472E+04  2.1231E-06  1.5042E+19  6.4648E+14
Kr-87                  7.4384E+03  2.6260E-07  1.8177E+18  2.7522E+14
Kr-88                  3.1958E+04  2.5486E-06  1.7441E+19  1.1824E+15
Rb-86                  2.2467E-01  2.7612E-09  1.9335E+16  8.3129E+09
Sr-89                  8.5741E+00  2.9513E-07  1.9970E+18  3.1724E+11
Sr-90                  1.1672E+00  8.5566E-06  5.7255E+19  4.3186E+10
Sr-91                  8.1689E+00  2.2535E-09  1.4913E+16  3.0225E+11
Sr-92                  4.7116E+00  3.7485E-10  2.4537E+15  1.7433E+11
Y-90                   4.2985E-02  7.9007E-11  5.2866E+14  1.5904E+09
```

Y-91	1.1240E-01	4.5834E-09	3.0331E+16	4.1589E+09
Y-92	1.8734E+00	1.9469E-10	1.2744E+15	6.9315E+10
Y-93	9.4066E-02	2.8195E-11	1.8257E+14	3.4805E+09
Zr-95	1.2816E-01	5.9656E-09	3.7817E+16	4.7419E+09
Zr-97	1.0602E-01	5.5457E-11	3.4430E+14	3.9226E+09
Nb-95	1.2805E-01	3.2746E-09	2.0758E+16	4.7378E+09
Mo-99	1.5527E+00	3.2373E-09	1.9693E+16	5.7449E+10
Tc-99m	1.4158E+00	2.6925E-10	1.6378E+15	5.2384E+10
Ru-103	1.4144E+00	4.3826E-08	2.5624E+17	5.2334E+10
Ru-105	5.9497E-01	8.8510E-11	5.0764E+14	2.2014E+10
Ru-106	6.3957E-01	1.9117E-07	1.0861E+18	2.3664E+10
Rh-105	9.4663E-01	1.1215E-09	6.4323E+15	3.5025E+10
Sb-127	1.5887E+00	5.9491E-09	2.8210E+16	5.8783E+10
Sb-129	2.8764E+00	5.1150E-10	2.3879E+15	1.0643E+11
Te-127	1.6087E+00	6.0956E-10	2.8904E+15	5.9521E+10
Te-127m	2.7686E-01	2.9352E-08	1.3918E+17	1.0244E+10
Te-129	3.4659E+00	1.6550E-10	7.7259E+14	1.2824E+11
Te-129m	9.0577E-01	3.0067E-08	1.4036E+17	3.3513E+10
Te-131m	3.1197E+00	3.9124E-09	1.7985E+16	1.1543E+11
Te-132	2.3410E+01	7.7111E-08	3.5180E+17	8.6618E+11
I-131	2.2257E+02	1.7953E-06	8.2531E+18	8.2351E+12
I-132	1.8178E+02	1.7611E-08	8.0345E+16	6.7259E+12
I-133	4.1182E+02	3.6354E-07	1.6461E+18	1.5237E+13
I-134	6.5381E+01	2.4509E-09	1.1014E+16	2.4191E+12
I-135	2.9804E+02	8.4867E-08	3.7858E+17	1.1028E+13
Xe-133	2.1675E+05	1.1580E-03	5.2433E+21	8.0199E+15
Xe-135	8.5373E+04	3.3431E-05	1.4913E+20	3.1588E+15
Cs-134	2.5888E+01	2.0009E-05	8.9923E+19	9.5786E+11
Cs-136	7.5155E+00	1.0254E-07	4.5406E+17	2.7807E+11
Cs-137	2.0854E+01	2.3975E-04	1.0539E+21	7.7160E+11
Ba-139	2.9045E+00	1.7757E-10	7.6933E+14	1.0747E+11
Ba-140	1.2580E+01	1.7183E-07	7.3915E+17	4.6545E+11
La-140	6.5279E-01	1.1744E-09	5.0519E+15	2.4153E+10
La-141	6.4925E-02	1.1480E-11	4.9032E+13	2.4022E+09
La-142	2.9660E-02	2.0720E-12	8.7871E+12	1.0974E+09
Ce-141	2.9813E-01	1.0463E-08	4.4688E+16	1.1031E+10
Ce-143	2.7039E-01	4.0717E-10	1.7147E+15	1.0005E+10
Ce-144	2.3974E-01	7.5165E-08	3.1434E+17	8.8703E+09
Pr-143	1.1609E-01	1.7240E-09	7.2603E+15	4.2954E+09
Nd-147	4.6193E-02	5.7100E-10	2.3392E+15	1.7092E+09
Np-239	3.3281E+00	1.4346E-08	3.6148E+16	1.2314E+11
Pu-238	1.0625E-03	6.2065E-08	1.5704E+17	3.9314E+07
Pu-239	9.2535E-05	1.4887E-06	3.7512E+18	3.4238E+06
Pu-240	1.7185E-04	7.5418E-07	1.8924E+18	6.3585E+06
Pu-241	3.6796E-02	3.5720E-07	8.9258E+17	1.3615E+09
Am-241	2.6611E-05	7.7535E-09	1.9374E+16	9.8462E+05
Cm-242	6.4970E-03	1.9603E-09	4.8782E+15	2.4039E+08
Cm-244	4.5451E-04	5.6180E-09	1.3866E+16	1.6817E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.7781E+22	1.6591E+18
Elemental I (atoms)	3.2403E+18	1.1251E+14
Organic I (atoms)	2.3745E+18	8.2447E+13
Aerosols (kg)	2.7312E-04	9.4833E-09

Dose Effective (Ci) I-131 (Thyroid)	3.0090E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.6511E+02
Total I (Ci)	1.1796E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1500E+22
Elemental I (atoms)	1.1049E+17	1.5048E+18

```
Organic I (atoms)      0.0000E+00  1.0685E+18
Aerosols (kg)          1.3876E-03  1.9244E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0621E+22
Elemental I (atoms)    2.3181E+17  1.3167E+18
Organic I (atoms)      0.0000E+00  1.0249E+18
Aerosols (kg)          3.0067E-04  7.4137E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.6646E+21
Elemental I (atoms)    7.4402E+16  4.2261E+17
Organic I (atoms)      0.0000E+00  2.8393E+17
Aerosols (kg)          5.3129E-05  6.5464E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.3665E+19
Elemental I (atoms)    2.9780E+15  1.3296E+14
Organic I (atoms)      2.1529E+15  2.9929E+13
Aerosols (kg)          2.5069E-07  1.5846E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.6647E+18
Elemental I (atoms)    0.0000E+00  8.4716E+14
Organic I (atoms)      0.0000E+00  4.9209E+14
Aerosols (kg)          0.0000E+00  7.9775E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    4.6838E+19  0.0000E+00
Elemental I (atoms)    9.3133E+14  0.0000E+00
Organic I (atoms)      4.6165E+14  0.0000E+00
Aerosols (kg)          9.3295E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2418E+00  3.8675E+01  5.7375E+00
Accumulated dose (rem)  9.0902E+00  6.7936E+01  1.1954E+01

CR Air Intake Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5879E+00  6.9184E+01  1.0264E+01
Accumulated dose (rem)  2.8678E+01  1.9975E+02  3.7472E+01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.1752E-01  1.3944E+01  8.6270E-01
Accumulated dose (rem)  9.9206E-01  4.2577E+01  2.8583E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	1.0266E+06	2.6166E+00	1.8538E+25	3.1594E+21
Kr-85m	4.0195E+05	4.8842E-05	3.4604E+20	1.1920E+22
Kr-87	6.9409E+01	2.4504E-09	1.6962E+16	4.8868E+21
Kr-88	1.2897E+05	1.0285E-05	7.0386E+19	1.9489E+22
Rb-86	1.6789E+02	2.0633E-06	1.4448E+19	9.8444E+17
Sr-89	8.4039E+03	2.8927E-04	1.9573E+21	4.3066E+19
Sr-90	1.1573E+03	8.4839E-03	5.6768E+22	5.8769E+18
Sr-91	1.8328E+03	5.0561E-07	3.3460E+18	3.3884E+19
Sr-92	2.3611E+01	1.8784E-09	1.2296E+16	2.0239E+19
Y-90	2.5991E+02	4.7772E-07	3.1965E+18	4.3870E+17
Y-91	1.2745E+02	5.1968E-06	3.4391E+19	5.8301E+17
Y-92	2.2969E+02	2.3871E-08	1.5625E+17	4.2353E+18
Y-93	2.3066E+01	6.9135E-09	4.4768E+16	3.9249E+17
Zr-95	1.2592E+02	5.8615E-06	3.7156E+19	6.4405E+17
Zr-97	4.5704E+01	2.3908E-08	1.4843E+17	4.6608E+17
Nb-95	1.2694E+02	3.2463E-06	2.0578E+19	6.4463E+17
Mo-99	1.2446E+03	2.5950E-06	1.5785E+19	7.4937E+18
Tc-99m	1.2470E+03	2.3715E-07	1.4426E+18	6.8334E+18
Ru-103	1.3818E+03	4.2814E-05	2.5032E+20	7.0994E+18
Ru-105	2.3994E+01	3.5695E-09	2.0473E+16	2.3920E+18
Ru-106	6.3316E+02	1.8925E-04	1.0752E+21	3.2192E+18
Rh-105	6.8454E+02	8.1101E-07	4.6514E+18	4.4774E+18
Sb-127	1.3533E+03	5.0677E-06	2.4030E+19	7.7565E+18
Sb-129	1.0600E+02	1.8851E-08	8.8001E+16	1.1580E+19
Te-127	1.5103E+03	5.7228E-07	2.7137E+18	7.9142E+18
Te-127m	2.7447E+02	2.9098E-05	1.3798E+20	1.3940E+18
Te-129	9.1485E+02	4.3684E-08	2.0393E+17	1.3844E+19
Te-129m	8.8583E+02	2.9405E-05	1.3727E+20	4.5472E+18
Te-131m	1.9364E+03	2.4284E-06	1.1163E+19	1.4414E+19
Te-132	1.9399E+04	6.3898E-05	2.9152E+20	1.1369E+20
I-131	1.0802E+05	8.7129E-04	4.0053E+21	5.6247E+20
I-132	2.3216E+04	2.2491E-06	1.0261E+19	4.4996E+20
I-133	1.0990E+05	9.7012E-05	4.3926E+20	9.4460E+20
I-134	1.6087E-03	6.0304E-14	2.7102E+11	2.7206E+20
I-135	1.8628E+04	5.3043E-06	2.3662E+19	6.2391E+20
Xe-133	8.5605E+07	4.5734E-01	2.0708E+24	2.8084E+23
Xe-135	8.9521E+06	3.5055E-03	1.5637E+22	7.4812E+22
Cs-134	1.9955E+04	1.5423E-02	6.9314E+22	1.1407E+20
Cs-136	5.5406E+03	7.5597E-05	3.3475E+20	3.2851E+19
Cs-137	1.6087E+04	1.8494E-01	8.1296E+23	9.1903E+19
Ba-139	7.4296E-02	4.5422E-12	1.9679E+13	1.5947E+19
Ba-140	1.1914E+04	1.6274E-04	7.0005E+20	6.2734E+19
La-140	4.0168E+03	7.2266E-06	3.1086E+19	6.7632E+18
La-141	1.7177E+00	3.0374E-10	1.2973E+15	2.6312E+17
La-142	2.3929E-03	1.6716E-13	7.0891E+11	1.5455E+17
Ce-141	2.9069E+02	1.0202E-05	4.3573E+19	1.4958E+18
Ce-143	1.7515E+02	2.6374E-07	1.1107E+18	1.2577E+18
Ce-144	2.3723E+02	7.4378E-05	3.1105E+20	1.2066E+18
Pr-143	1.1937E+02	1.7727E-06	7.4653E+18	5.8893E+17
Nd-147	4.3429E+01	5.3683E-07	2.1992E+18	2.3001E+17
Np-239	2.5742E+03	1.1096E-05	2.7959E+19	1.5958E+19
Pu-238	1.0537E+00	6.1547E-05	1.5573E+20	5.3502E+15
Pu-239	9.1948E-02	1.4793E-03	3.7274E+21	4.6613E+14
Pu-240	1.7040E-01	7.4781E-04	1.8764E+21	8.6531E+14
Pu-241	3.6481E+01	3.5415E-04	8.8494E+20	1.8527E+17
Am-241	2.6520E-02	7.7270E-06	1.9308E+19	1.3413E+14
Cm-242	6.4191E+00	1.9368E-06	4.8197E+18	3.2689E+16
Cm-244	4.5064E-01	5.5701E-06	1.3748E+19	2.2885E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	2.0625E+25	0.0000E+00
Elemental I (atoms)	4.8347E+20	5.6172E+22

```
Organic I (atoms)      8.3899E+20  0.0000E+00
Aerosols (kg)          2.1322E-01  6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.7205E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1961E-05
Total I (Ci)                                   2.5976E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0901E+23
Elemental I (atoms)    0.0000E+00  3.9977E+18
Organic I (atoms)      0.0000E+00  4.9406E+18
Aerosols (kg)          0.0000E+00  2.6471E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0901E+23
Elemental I (atoms)    0.0000E+00  3.9977E+18
Organic I (atoms)      0.0000E+00  4.9406E+18
Aerosols (kg)          0.0000E+00  2.6471E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.4644E+22
Elemental I (atoms)    0.0000E+00  2.0013E+18
Organic I (atoms)      0.0000E+00  2.4764E+18
Aerosols (kg)          0.0000E+00  1.3238E-03
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3693E+26
Elemental I (atoms)    0.0000E+00  2.0485E+22
Organic I (atoms)      0.0000E+00  2.8655E+22
Aerosols (kg)          0.0000E+00  1.2051E+01
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.2300E+26
Elemental I (atoms)    0.0000E+00  2.0059E+22
Organic I (atoms)      0.0000E+00  2.7956E+22
Aerosols (kg)          0.0000E+00  1.1926E+01
```

Environment Integral Nuclide Release:

```
Time (h) =  24.0000       Ci           kg         Atoms         Bq
Co-58                  8.1701E-03  2.5694E-10  2.6678E+15  3.0229E+08
Co-60                  9.8119E-03  8.6802E-09  8.7122E+16  3.6304E+08
Kr-85                  1.1092E+04  2.8272E-02  2.0031E+23  4.1041E+14
Kr-85m                 3.1616E+04  3.8417E-06  2.7218E+19  1.1698E+15
Kr-87                  7.8107E+03  2.7575E-07  1.9087E+18  2.8900E+14
Kr-88                  4.4559E+04  3.5535E-06  2.4318E+19  1.6487E+15
Rb-86                  3.5091E-01  4.3127E-09  3.0200E+16  1.2984E+10
Sr-89                  1.4663E+01  5.0470E-07  3.4150E+18  5.4252E+11
Sr-90                  2.0016E+00  1.4674E-05  9.8187E+19  7.4060E+10
Sr-91                  1.0759E+01  2.9681E-09  1.9642E+16  3.9810E+11
Sr-92                  4.9913E+00  3.9710E-10  2.5993E+15  1.8468E+11
Y-90                   1.6795E-01  3.0869E-10  2.0655E+15  6.2141E+09
Y-91                   2.0112E-01  8.2010E-09  5.4272E+16  7.4415E+09
```

Y-92	2.6427E+00	2.7464E-10	1.7977E+15	9.7778E+10
Y-93	1.2528E-01	3.7551E-11	2.4316E+14	4.6355E+09
Zr-95	2.1930E-01	1.0208E-08	6.4709E+16	8.1139E+09
Zr-97	1.5341E-01	8.0247E-11	4.9820E+14	5.6760E+09
Nb-95	2.1958E-01	5.6155E-09	3.5597E+16	8.1246E+09
Mo-99	2.5338E+00	5.2830E-09	3.2137E+16	9.3752E+10
Tc-99m	2.3643E+00	4.4964E-10	2.7351E+15	8.7479E+10
Ru-103	2.4169E+00	7.4887E-08	4.3784E+17	8.9425E+10
Ru-105	6.7861E-01	1.0095E-10	5.7901E+14	2.5109E+10
Ru-106	1.0964E+00	3.2772E-07	1.8618E+18	4.0567E+10
Rh-105	1.5217E+00	1.8029E-09	1.0340E+16	5.6305E+10
Sb-127	2.6285E+00	9.8425E-09	4.6671E+16	9.7253E+10
Sb-129	3.2650E+00	5.8061E-10	2.7105E+15	1.2081E+11
Te-127	2.7258E+00	1.0328E-09	4.8976E+15	1.0085E+11
Te-127m	4.7480E-01	5.0336E-08	2.3868E+17	1.7567E+10
Te-129	4.4157E+00	2.1085E-10	9.8432E+14	1.6338E+11
Te-129m	1.5487E+00	5.1409E-08	2.4000E+17	5.7303E+10
Te-131m	4.8247E+00	6.0505E-09	2.7814E+16	1.7851E+11
Te-132	3.8489E+01	1.2678E-07	5.7839E+17	1.4241E+12
I-131	5.4815E+02	4.4215E-06	2.0326E+19	2.0282E+13
I-132	2.5005E+02	2.4224E-08	1.1052E+17	9.2518E+12
I-133	8.3447E+02	7.3664E-07	3.3354E+18	3.0875E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.3753E+02	1.2459E-07	5.5576E+17	1.6189E+13
Xe-133	9.7697E+05	5.2194E-03	2.3633E+22	3.6148E+16
Xe-135	2.2915E+05	8.9730E-05	4.0027E+20	8.4784E+15
Cs-134	4.0701E+01	3.1458E-05	1.4138E+20	1.5059E+12
Cs-136	1.1705E+01	1.5971E-07	7.0718E+17	4.3308E+11
Cs-137	3.2792E+01	3.7700E-04	1.6572E+21	1.2133E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	2.1335E+01	2.9143E-07	1.2536E+18	7.8941E+11
La-140	2.6210E+00	4.7154E-09	2.0283E+16	9.6975E+10
La-141	7.2522E-02	1.2824E-11	5.4770E+13	2.6833E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	5.0926E-01	1.7873E-08	7.6335E+16	1.8843E+10
Ce-143	4.2175E-01	6.3509E-10	2.6745E+15	1.5605E+10
Ce-144	4.1093E-01	1.2884E-07	5.3881E+17	1.5205E+10
Pr-143	2.0115E-01	2.9872E-09	1.2580E+16	7.4426E+09
Nd-147	7.8207E-02	9.6672E-10	3.9604E+15	2.8936E+09
Np-239	5.3886E+00	2.3227E-08	5.8527E+16	1.9938E+11
Pu-238	1.8222E-03	1.0644E-07	2.6933E+17	6.7423E+07
Pu-239	1.5878E-04	2.5545E-06	6.4366E+18	5.8748E+06
Pu-240	2.9472E-04	1.2934E-06	3.2454E+18	1.0905E+07
Pu-241	6.3102E-02	6.1256E-07	1.5307E+18	2.3348E+09
Am-241	4.5693E-05	1.3313E-08	3.3267E+16	1.6906E+06
Cm-242	1.1132E-02	3.3589E-09	8.3585E+15	4.1189E+08
Cm-244	7.7945E-04	9.6344E-09	2.3779E+16	2.8840E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s
Noble gases (atoms)	2.2439E+23	2.5971E+18
Elemental I (atoms)	7.1182E+18	8.2387E+13
Organic I (atoms)	9.9726E+18	1.1542E+14
Aerosols (kg)	4.3114E-04	4.9900E-09

Dose Effective (Ci) I-131 (Thyroid)	7.0127E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	8.1773E+02
Total I (Ci)	2.1357E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3267E+22
Elemental I (atoms)	2.8316E+17	3.2276E+18
Organic I (atoms)	0.0000E+00	4.1737E+18

```
Aerosols (kg)          2.1848E-03  3.0301E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3106E+22
Elemental I (atoms)    5.8184E+17  2.7498E+18
Organic I (atoms)      0.0000E+00  4.1604E+18
Aerosols (kg)          4.6393E-04  1.1439E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.8113E+22
Elemental I (atoms)    2.5637E+17  1.1676E+18
Organic I (atoms)      0.0000E+00  1.6883E+18
Aerosols (kg)          1.1155E-04  1.3745E-05

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1106E+20
Elemental I (atoms)    4.4510E+15  1.4784E+14
Organic I (atoms)      5.0397E+15  5.9089E+13
Aerosols (kg)          3.1036E-07  1.6449E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.4455E+19
Elemental I (atoms)    0.0000E+00  1.1737E+15
Organic I (atoms)      0.0000E+00  1.1320E+15
Aerosols (kg)          0.0000E+00  9.3002E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    1.3221E+20  0.0000E+00
Elemental I (atoms)    1.2996E+15  0.0000E+00
Organic I (atoms)      1.1586E+15  0.0000E+00
Aerosols (kg)          1.0900E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1177E+00  2.3172E+01  2.0186E+00
Accumulated dose (rem)  1.0208E+01  9.1108E+01  1.3973E+01

CR Air Intake Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.9261E-01  1.6433E+01  1.4315E+00
Accumulated dose (rem)  2.9471E+01  2.1618E+02  3.8904E+01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.3116E-02  3.3082E+00  1.6153E-01
Accumulated dose (rem)  1.0252E+00  4.5885E+01  3.0198E+00

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	1.0224E+06	2.6059E+00	1.8462E+25	6.4342E+21
Kr-85m	9.7677E+03	1.1869E-06	8.4091E+18	1.2257E+22
Kr-87	1.4401E-04	5.0842E-15	3.5193E+10	4.8868E+21
Kr-88	3.6716E+02	2.9281E-08	2.0038E+17	1.9560E+22
Rb-86	1.6113E+02	1.9803E-06	1.3867E+19	1.5102E+18
Sr-89	8.2567E+03	2.8420E-04	1.9230E+21	6.9694E+19
Sr-90	1.1526E+03	8.4499E-03	5.6541E+22	9.5688E+18
Sr-91	3.1689E+02	8.7419E-08	5.7851E+17	3.6645E+19
Sr-92	5.0751E-02	4.0376E-12	2.6430E+13	2.0252E+19
Y-90	4.6490E+02	8.5449E-07	5.7176E+18	1.5918E+18
Y-91	1.2970E+02	5.2889E-06	3.5001E+19	9.9564E+17
Y-92	2.6719E+00	2.7767E-10	1.8176E+15	4.4018E+18
Y-93	4.4252E+00	1.3264E-09	8.5888E+15	4.2858E+17
Zr-95	1.2407E+02	5.7754E-06	3.6611E+19	1.0436E+18
Zr-97	1.7011E+01	8.8987E-09	5.5247E+16	5.5889E+17
Nb-95	1.2638E+02	3.2320E-06	2.0488E+19	1.0494E+18
Mo-99	9.6350E+02	2.0089E-06	1.2220E+19	1.1004E+19
Tc-99m	9.8600E+02	1.8751E-07	1.1406E+18	1.0219E+19
Ru-103	1.3523E+03	4.1899E-05	2.4497E+20	1.1469E+19
Ru-105	5.6391E-01	8.3889E-11	4.8114E+14	2.4119E+18
Ru-106	6.2948E+02	1.8815E-04	1.0689E+21	5.2373E+18
Rh-105	4.2804E+02	5.0712E-07	2.9085E+18	6.2255E+18
Sb-127	1.1259E+03	4.2160E-06	1.9992E+19	1.1708E+19
Sb-129	2.2450E+00	3.9923E-10	1.8637E+15	1.1666E+19
Te-127	1.3352E+03	5.0592E-07	2.3990E+18	1.2316E+19
Te-127m	2.7306E+02	2.8949E-05	1.3727E+20	2.2690E+18
Te-129	7.5065E+02	3.5844E-08	1.6733E+17	1.5765E+19
Te-129m	8.6444E+02	2.8695E-05	1.3396E+20	7.3446E+18
Te-131m	1.1078E+03	1.3892E-06	6.3864E+18	1.9157E+19
Te-132	1.5620E+04	5.1450E-05	2.3473E+20	1.6944E+20
I-131	9.8800E+04	7.9693E-04	3.6635E+21	8.9281E+20
I-132	1.8644E+04	1.8062E-06	8.2403E+18	5.0770E+20
I-133	4.9195E+04	4.3428E-05	1.9664E+20	1.1860E+21
I-135	1.4978E+03	4.2650E-07	1.9025E+18	6.4564E+20
Xe-133	7.4721E+07	3.9919E-01	1.8075E+24	5.3670E+23
Xe-135	1.4337E+06	5.6142E-04	2.5044E+21	8.7934E+22
Cs-134	1.9858E+04	1.5348E-02	6.8978E+22	1.7771E+20
Cs-136	5.2343E+03	7.1418E-05	3.1624E+20	5.0068E+19
Cs-137	1.6022E+04	1.8420E-01	8.0970E+23	1.4322E+20
Ba-139	4.2425E-07	2.5937E-17	1.1237E+08	1.5947E+19
Ba-140	1.1239E+04	1.5352E-04	6.6036E+20	9.9729E+19
La-140	6.5819E+03	1.1842E-05	5.0937E+19	2.3742E+19
La-141	2.4825E-02	4.3897E-12	1.8748E+13	2.6440E+17
La-142	4.9080E-08	3.4285E-18	1.4540E+07	1.5455E+17
Ce-141	2.8345E+02	9.9478E-06	4.2487E+19	2.4134E+18
Ce-143	1.0538E+02	1.5868E-07	6.6826E+17	1.6967E+18
Ce-144	2.3572E+02	7.3904E-05	3.0907E+20	1.9625E+18
Pr-143	1.1980E+02	1.7790E-06	7.4919E+18	9.7167E+17
Nd-147	4.0611E+01	5.0200E-07	2.0566E+18	3.6428E+17
Np-239	1.9103E+03	8.2343E-06	2.0748E+19	2.3072E+19
Pu-238	1.0496E+00	6.1311E-05	1.5514E+20	8.7118E+15
Pu-239	9.1760E-02	1.4763E-03	3.7198E+21	7.5976E+14
Pu-240	1.6973E-01	7.4487E-04	1.8690E+21	1.4089E+15
Pu-241	3.6333E+01	3.5270E-04	8.8134E+20	3.0165E+17
Am-241	2.6575E-02	7.7430E-06	1.9348E+19	2.1898E+14
Cm-242	6.3666E+00	1.9210E-06	4.7803E+18	5.3124E+16
Cm-244	4.4881E-01	5.5476E-06	1.3692E+19	3.7261E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	2.0272E+25	0.0000E+00
Elemental I (atoms)	4.1781E+20	5.6172E+22
Organic I (atoms)	7.2505E+20	0.0000E+00
Aerosols (kg)	2.1223E-01	6.1246E+01

```
Dose Effective (Ci/cc) I-131 (Thyroid)         3.9828E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   4.1912E-05
Total I (Ci)                                   1.6814E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6326E+23
Elemental I (atoms)	0.0000E+00	5.1901E+18
Organic I (atoms)	0.0000E+00	7.0099E+18
Aerosols (kg)	0.0000E+00	3.2114E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6326E+23
Elemental I (atoms)	0.0000E+00	5.1901E+18
Organic I (atoms)	0.0000E+00	7.0099E+18
Aerosols (kg)	0.0000E+00	3.2114E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.1612E+22
Elemental I (atoms)	0.0000E+00	2.5941E+18
Organic I (atoms)	0.0000E+00	3.5051E+18
Aerosols (kg)	0.0000E+00	1.6043E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2879E+27
Elemental I (atoms)	0.0000E+00	3.4794E+22
Organic I (atoms)	0.0000E+00	5.3487E+22
Aerosols (kg)	0.0000E+00	1.8822E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2740E+27
Elemental I (atoms)	0.0000E+00	3.4369E+22
Organic I (atoms)	0.0000E+00	5.2790E+22
Aerosols (kg)	0.0000E+00	1.8698E+01

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	1.0325E-02	3.2471E-10	3.3715E+15	3.8203E+08
Co-60	1.2429E-02	1.0995E-08	1.1036E+17	4.5986E+08
Kr-85	1.7875E+04	4.5561E-02	3.2279E+23	6.6138E+14
Kr-85m	3.2260E+04	3.9201E-06	2.7773E+19	1.1936E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5637E-06	2.4388E+19	1.6534E+15
Rb-86	4.2695E-01	5.2472E-09	3.6744E+16	1.5797E+10
Sr-89	1.8513E+01	6.3723E-07	4.3118E+18	6.8498E+11
Sr-90	2.5356E+00	1.8589E-05	1.2438E+20	9.3818E+10
Sr-91	1.1145E+01	3.0744E-09	2.0345E+16	4.1235E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	3.3959E-01	6.2417E-10	4.1765E+15	1.2565E+10
Y-91	2.6087E-01	1.0637E-08	7.0396E+16	9.6523E+09
Y-92	2.6648E+00	2.7694E-10	1.8128E+15	9.8599E+10
Y-93	1.3033E-01	3.9064E-11	2.5295E+14	4.8222E+09

Zr-95	2.7707E-01	1.2897E-08	8.1758E+16	1.0252E+10
Zr-97	1.6656E-01	8.7128E-11	5.4092E+14	6.1627E+09
Nb-95	2.7815E-01	7.1131E-09	4.5091E+16	1.0291E+10
Mo-99	3.0389E+00	6.3361E-09	3.8542E+16	1.1244E+11
Tc-99m	2.8778E+00	5.4730E-10	3.3292E+15	1.0648E+11
Ru-103	3.0487E+00	9.4462E-08	5.5229E+17	1.1280E+11
Ru-105	6.8128E-01	1.0135E-10	5.8129E+14	2.5207E+10
Ru-106	1.3883E+00	4.1496E-07	2.3575E+18	5.1366E+10
Rh-105	1.7722E+00	2.0996E-09	1.2042E+16	6.5572E+10
Sb-127	3.1979E+00	1.1975E-08	5.6782E+16	1.1832E+11
Sb-129	3.2765E+00	5.8266E-10	2.7200E+15	1.2123E+11
Te-127	3.3832E+00	1.2819E-09	6.0787E+15	1.2518E+11
Te-127m	6.0138E-01	6.3755E-08	3.0232E+17	2.2251E+10
Te-129	4.7816E+00	2.2832E-10	1.0659E+15	1.7692E+11
Te-129m	1.9532E+00	6.4835E-08	3.0267E+17	7.2267E+10
Te-131m	5.5029E+00	6.9010E-09	3.1724E+16	2.0361E+11
Te-132	4.6518E+01	1.5322E-07	6.9904E+17	1.7212E+12
I-131	7.6196E+02	6.1461E-06	2.8254E+19	2.8193E+13
I-132	2.8100E+02	2.7223E-08	1.2420E+17	1.0397E+13
I-133	9.8842E+02	8.7254E-07	3.9508E+18	3.6572E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5089E+02	1.2839E-07	5.7274E+17	1.6683E+13
Xe-133	1.5054E+06	8.0425E-03	3.6416E+22	5.5700E+16
Xe-135	2.5528E+05	9.9964E-05	4.4592E+20	9.4453E+15
Cs-134	4.9911E+01	3.8576E-05	1.7337E+20	1.8467E+12
Cs-136	1.4194E+01	1.9367E-07	8.5756E+17	5.2518E+11
Cs-137	4.0219E+01	4.6239E-04	2.0325E+21	1.4881E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	2.6680E+01	3.6444E-07	1.5677E+18	9.8717E+11
La-140	5.1475E+00	9.2609E-09	3.9836E+16	1.9046E+11
La-141	7.2691E-02	1.2853E-11	5.4898E+13	2.6896E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	6.4192E-01	2.2529E-08	9.6221E+16	2.3751E+10
Ce-143	4.8459E-01	7.2971E-10	3.0730E+15	1.7930E+10
Ce-144	5.2026E-01	1.6312E-07	6.8216E+17	1.9250E+10
Pr-143	2.5659E-01	3.8104E-09	1.6047E+16	9.4937E+09
Nd-147	9.7602E-02	1.2065E-09	4.9426E+15	3.6113E+09
Np-239	6.4114E+00	2.7637E-08	6.9637E+16	2.3722E+11
Pu-238	2.3085E-03	1.3484E-07	3.4119E+17	8.5413E+07
Pu-239	2.0125E-04	3.2378E-06	8.1583E+18	7.4462E+06
Pu-240	3.7335E-04	1.6384E-06	4.1112E+18	1.3814E+07
Pu-241	7.9934E-02	7.7597E-07	1.9390E+18	2.9576E+09
Am-241	5.7969E-05	1.6890E-08	4.2205E+16	2.1448E+06
Cm-242	1.4088E-02	4.2506E-09	1.0578E+16	5.2125E+08
Cm-244	9.8738E-04	1.2205E-08	3.0122E+16	3.6533E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.5971E+23	2.0816E+18	
Elemental I (atoms)	9.2132E+18	5.3317E+13	
Organic I (atoms)	1.5103E+19	8.7403E+13	
Aerosols (kg)	5.2955E-04	3.0645E-09	
Dose Effective (Ci) I-131 (Thyroid)			9.4128E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.0749E+03
Total I (Ci)			2.5478E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4750E+23
Elemental I (atoms)	4.7034E+17	4.2334E+18
Organic I (atoms)	0.0000E+00	6.2425E+18
Aerosols (kg)	2.6816E-03	3.7191E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4735E+23
Elemental I (atoms)	9.3014E+17	3.4812E+18
Organic I (atoms)	0.0000E+00	6.2288E+18
Aerosols (kg)	5.6923E-04	1.4036E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5024E+22
Elemental I (atoms)	4.3311E+17	1.5388E+18
Organic I (atoms)	0.0000E+00	2.7142E+18
Aerosols (kg)	1.4034E-04	1.7292E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4511E+20
Elemental I (atoms)	4.9759E+15	1.5315E+14
Organic I (atoms)	6.3250E+15	7.2072E+13
Aerosols (kg)	3.3486E-07	1.6697E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1926E+19
Elemental I (atoms)	0.0000E+00	1.2900E+15
Organic I (atoms)	0.0000E+00	1.4169E+15
Aerosols (kg)	0.0000E+00	9.8433E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.7575E+20	0.0000E+00
Elemental I (atoms)	1.4292E+15	0.0000E+00
Organic I (atoms)	1.4719E+15	0.0000E+00
Aerosols (kg)	1.1495E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3360E-01	1.8428E+01	1.4848E+00
Accumulated dose (rem)	1.0942E+01	1.0954E+02	1.5458E+01

CR Air Intake Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2024E-01	1.3068E+01	1.0530E+00
Accumulated dose (rem)	2.9991E+01	2.2925E+02	3.9957E+01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9970E-02	2.4599E+00	1.2018E-01
Accumulated dose (rem)	1.0451E+00	4.8345E+01	3.1400E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16

Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	1.0181E+06	2.5950E+00	1.8386E+25	9.6955E+21
Kr-85m	2.3736E+02	2.8842E-08	2.0434E+17	1.2265E+22
Kr-87	2.9879E-10	1.0549E-20	7.3017E+04	4.8868E+21
Kr-88	1.0452E+00	8.3357E-11	5.7044E+14	1.9560E+22
Rb-86	1.5464E+02	1.9005E-06	1.3308E+19	2.0148E+18
Sr-89	8.1118E+03	2.7921E-04	1.8893E+21	9.5855E+19
Sr-90	1.1480E+03	8.4158E-03	5.6312E+22	1.3246E+19
Sr-91	5.4788E+01	1.5114E-08	1.0002E+17	3.7122E+19
Sr-92	1.0908E-04	8.6786E-15	5.6808E+10	2.0252E+19
Y-90	6.2126E+02	1.1419E-06	7.6407E+18	3.3192E+18
Y-91	1.2840E+02	5.2358E-06	3.4649E+19	1.4084E+18
Y-92	2.5489E-02	2.6489E-12	1.7339E+13	4.4036E+18
Y-93	8.4895E-01	2.5446E-10	1.6477E+15	4.3550E+17
Zr-95	1.2225E+02	5.6905E-06	3.6073E+19	1.4373E+18
Zr-97	6.3316E+00	3.3121E-09	2.0563E+16	5.9343E+17
Nb-95	1.2580E+02	3.2171E-06	2.0393E+19	1.4522E+18
Mo-99	7.4586E+02	1.5551E-06	9.4597E+18	1.3721E+19
Tc-99m	7.6457E+02	1.4540E-07	8.8449E+17	1.2862E+19
Ru-103	1.3233E+03	4.1003E-05	2.3973E+20	1.5745E+19
Ru-105	1.3252E-02	1.9715E-12	1.1307E+13	2.4124E+18
Ru-106	6.2580E+02	1.8705E-04	1.0627E+21	7.2436E+18
Rh-105	2.6639E+02	3.1560E-07	1.8101E+18	7.3151E+18
Sb-127	9.3666E+02	3.5074E-06	1.6632E+19	1.4995E+19
Sb-129	4.7545E-02	8.4548E-12	3.9470E+13	1.1668E+19
Te-127	1.1615E+03	4.4011E-07	2.0869E+18	1.6168E+19
Te-127m	2.7142E+02	2.8775E-05	1.3645E+20	3.1392E+18
Te-129	7.2939E+02	3.4828E-08	1.6259E+17	1.7544E+19
Te-129m	8.4343E+02	2.7997E-05	1.3070E+20	1.0074E+19
Te-131m	6.3372E+02	7.9473E-07	3.6534E+18	2.1870E+19
Te-132	1.2576E+04	4.1426E-05	1.8899E+20	2.1433E+20
I-131	9.0333E+04	7.2864E-04	3.3496E+21	1.1949E+21
I-132	1.5011E+04	1.4543E-06	6.6348E+18	5.5416E+20
I-133	2.2022E+04	1.9440E-05	8.8023E+19	1.2941E+21
I-135	1.2043E+02	3.4292E-08	1.5297E+17	6.4738E+20
Xe-133	6.5215E+07	3.4840E-01	1.5775E+24	7.6001E+23
Xe-135	2.2933E+05	8.9803E-05	4.0060E+20	9.0034E+22
Cs-134	1.9761E+04	1.5273E-02	6.8640E+22	2.4103E+20
Cs-136	4.9448E+03	6.7468E-05	2.9875E+20	6.6332E+19
Cs-137	1.5958E+04	1.8346E-01	8.0643E+23	1.9433E+20
Ba-140	1.0601E+04	1.4481E-04	6.2291E+20	1.3463E+20
La-140	8.0491E+03	1.4481E-05	6.2291E+19	4.7058E+19
La-141	3.5876E-04	6.3438E-14	2.7094E+11	2.6442E+17
Ce-141	2.7636E+02	9.6992E-06	4.1425E+19	3.3081E+18
Ce-143	6.3401E+01	9.5471E-08	4.0206E+17	1.9608E+18
Ce-144	2.3421E+02	7.3431E-05	3.0709E+20	2.7136E+18
Pr-143	1.1748E+02	1.7446E-06	7.3469E+18	1.3512E+18
Nd-147	3.7975E+01	4.6942E-07	1.9231E+18	4.8984E+17
Np-239	1.4176E+03	6.1105E-06	1.5397E+19	2.8352E+19
Pu-238	1.0456E+00	6.1074E-05	1.5454E+20	1.2061E+16
Pu-239	9.1526E-02	1.4725E-03	3.7103E+21	1.0527E+15
Pu-240	1.6906E-01	7.4191E-04	1.8616E+21	1.9504E+15
Pu-241	3.6184E+01	3.5125E-04	8.7772E+20	4.1755E+17
Am-241	2.6628E-02	7.7584E-06	1.9387E+19	3.0400E+14
Cm-242	6.3144E+00	1.9052E-06	4.7411E+18	7.3391E+16
Cm-244	4.4698E-01	5.5249E-06	1.3636E+19	5.1578E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9963E+25	0.0000E+00	
Elemental I (atoms)	3.7183E+20	5.6172E+22	
Organic I (atoms)	6.4526E+20	0.0000E+00	
Aerosols (kg)	2.1127E-01	6.1246E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4977E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5973E-05
Total I (Ci)			1.2749E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1663E+23
Elemental I (atoms)	0.0000E+00	6.2371E+18
Organic I (atoms)	0.0000E+00	8.8268E+18
Aerosols (kg)	0.0000E+00	3.7731E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1663E+23
Elemental I (atoms)	0.0000E+00	6.2371E+18
Organic I (atoms)	0.0000E+00	8.8268E+18
Aerosols (kg)	0.0000E+00	3.7731E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0814E+23
Elemental I (atoms)	0.0000E+00	3.1146E+18
Organic I (atoms)	0.0000E+00	4.4084E+18
Aerosols (kg)	0.0000E+00	1.8835E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9283E+27
Elemental I (atoms)	0.0000E+00	4.7357E+22
Organic I (atoms)	0.0000E+00	7.5290E+22
Aerosols (kg)	0.0000E+00	2.5563E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9145E+27
Elemental I (atoms)	0.0000E+00	4.6934E+22
Organic I (atoms)	0.0000E+00	7.4594E+22
Aerosols (kg)	0.0000E+00	2.5439E+01

Environment Integral Nuclide Release:

Time (h) = 72.0000	Ci	kg	Atoms	Bq
Co-58	1.2448E-02	3.9146E-10	4.0645E+15	4.6056E+08
Co-60	1.5030E-02	1.3296E-08	1.3345E+17	5.5610E+08
Kr-85	2.4642E+04	6.2808E-02	4.4499E+23	9.1174E+14
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	4.9977E-01	6.1421E-09	4.3010E+16	1.8491E+10
Sr-89	2.2290E+01	7.6723E-07	5.1914E+18	8.2472E+11
Sr-90	3.0666E+00	2.2481E-05	1.5043E+20	1.1346E+11
Sr-91	1.1211E+01	3.0927E-09	2.0467E+16	4.1481E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	5.9343E-01	1.0907E-09	7.2984E+15	2.1957E+10
Y-91	3.2048E-01	1.3068E-08	8.6482E+16	1.1858E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3130E-01	3.9353E-11	2.5483E+14	4.8579E+09
Zr-95	3.3391E-01	1.5543E-08	9.8529E+16	1.2355E+10
Zr-97	1.7145E-01	8.9684E-11	5.5679E+14	6.3435E+09
Nb-95	3.3635E-01	8.6016E-09	5.4526E+16	1.2445E+10
Mo-99	3.4292E+00	7.1499E-09	4.3493E+16	1.2688E+11

Tc-99m	3.2777E+00	6.2335E-10	3.7918E+15	1.2128E+11
Ru-103	3.6659E+00	1.1359E-07	6.6412E+17	1.3564E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	1.6780E+00	5.0155E-07	2.8495E+18	6.2085E+10
Rh-105	1.9280E+00	2.2842E-09	1.3101E+16	7.1337E+10
Sb-127	3.6708E+00	1.3746E-08	6.5180E+16	1.3582E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	3.9570E+00	1.4994E-09	7.1097E+15	1.4641E+11
Te-127m	7.2705E-01	7.7078E-08	3.6549E+17	2.6901E+10
Te-129	5.1226E+00	2.4461E-10	1.1419E+15	1.8954E+11
Te-129m	2.3472E+00	7.7913E-08	3.6372E+17	8.6845E+10
Te-131m	5.8902E+00	7.3867E-09	3.3957E+16	2.1794E+11
Te-132	5.2972E+01	1.7448E-07	7.9603E+17	1.9599E+12
I-131	9.4230E+02	7.6007E-06	3.4941E+19	3.4865E+13
I-132	3.0417E+02	2.9468E-08	1.3444E+17	1.1254E+13
I-133	1.0520E+03	9.2866E-07	4.2049E+18	3.8924E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5188E+02	1.2867E-07	5.7400E+17	1.6720E+13
Xe-133	1.9675E+06	1.0511E-02	4.7593E+22	7.2797E+16
Xe-135	2.5947E+05	1.0161E-04	4.5325E+20	9.6005E+15
Cs-134	5.9055E+01	4.5644E-05	2.0513E+20	2.1850E+12
Cs-136	1.6540E+01	2.2568E-07	9.9932E+17	6.1199E+11
Cs-137	4.7601E+01	5.4725E-04	2.4056E+21	1.7612E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	3.1714E+01	4.3320E-07	1.8634E+18	1.1734E+12
La-140	8.5723E+00	1.5423E-08	6.6341E+16	3.1717E+11
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	7.7106E-01	2.7061E-08	1.1558E+17	2.8529E+10
Ce-143	5.2232E-01	7.8654E-10	3.3123E+15	1.9326E+10
Ce-144	6.2871E-01	1.9712E-07	8.2436E+17	2.3262E+10
Pr-143	3.1141E-01	4.6245E-09	1.9475E+16	1.1522E+10
Nd-147	1.1571E-01	1.4303E-09	5.8595E+15	4.2812E+09
Np-239	7.1692E+00	3.0903E-08	7.7867E+16	2.6526E+11
Pu-238	2.7920E-03	1.6309E-07	4.1267E+17	1.0331E+08
Pu-239	2.4355E-04	3.9184E-06	9.8733E+18	9.0115E+06
Pu-240	4.5154E-04	1.9816E-06	4.9723E+18	1.6707E+07
Pu-241	9.6671E-02	9.3844E-07	2.3450E+18	3.5768E+09
Am-241	7.0250E-05	2.0468E-08	5.1146E+16	2.5992E+06
Cm-242	1.7014E-02	5.1336E-09	1.2775E+16	6.2953E+08
Cm-244	1.1941E-03	1.4760E-08	3.6429E+16	4.4183E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.9309E+23	1.9023E+18
Elemental I (atoms)	1.0464E+19	4.0370E+13
Organic I (atoms)	1.9622E+19	7.5701E+13
Aerosols (kg)	6.2729E-04	2.4201E-09
Dose Effective (Ci) I-131 (Thyroid)		1.1324E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.2732E+03
Total I (Ci)		2.8159E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0093E+23
Elemental I (atoms)	8.0092E+17	4.9509E+18
Organic I (atoms)	0.0000E+00	8.0614E+18
Aerosols (kg)	3.1754E-03	4.4041E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 72.0000	Pathway Filtered	Transported

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Noble gases (atoms)    0.0000E+00  2.0078E+23
Elemental I (atoms)    1.4151E+18  3.8386E+18
Organic I (atoms)      0.0000E+00  8.0472E+18
Aerosols (kg)          6.7411E-04  1.6622E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1607E+22
Elemental I (atoms)    6.8037E+17  1.7210E+18
Organic I (atoms)      0.0000E+00  3.6186E+18
Aerosols (kg)          1.6787E-04  2.0685E-05

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7866E+20
Elemental I (atoms)    5.2888E+15  1.5631E+14
Organic I (atoms)      7.4556E+15  8.3492E+13
Aerosols (kg)          3.5919E-07  1.6942E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9289E+19
Elemental I (atoms)    0.0000E+00  1.3594E+15
Organic I (atoms)      0.0000E+00  1.6675E+15
Aerosols (kg)          0.0000E+00  1.0383E-07

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    2.1667E+20  0.0000E+00
Elemental I (atoms)    1.5026E+15  0.0000E+00
Organic I (atoms)      1.7339E+15  0.0000E+00
Aerosols (kg)          1.2060E-07  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.0345E-01  1.5049E+01  1.2490E+00
Accumulated dose (rem)  1.1545E+01  1.2458E+02  1.6707E+01

CR Air Intake Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.2794E-01  1.0672E+01  8.8573E-01
Accumulated dose (rem)  3.0419E+01  2.3993E+02  4.0842E+01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.6442E-02  2.0090E+00  1.0255E-01
Accumulated dose (rem)  1.0616E+00  5.0354E+01  3.2426E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Co-58                  4.5046E+00  1.4166E-07  1.4709E+18  6.8096E+16
Co-60                  5.5986E+00  4.9528E-06  4.9711E+19  8.2848E+16
Kr-85                  1.0139E+06  2.5843E+00  1.8309E+25  1.2943E+22
Kr-85m                 5.7678E+00  7.0087E-10  4.9656E+15  1.2265E+22
Kr-88                  2.9755E-03  2.3730E-13  1.6239E+12  1.9560E+22
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Rb-86	1.4841E+02	1.8239E-06	1.2772E+19	2.4991E+18
Sr-89	7.9694E+03	2.7431E-04	1.8561E+21	1.2156E+20
Sr-90	1.1433E+03	8.3818E-03	5.6085E+22	1.6908E+19
Sr-91	9.4724E+00	2.6131E-09	1.7293E+16	3.7205E+19
Sr-92	2.3447E-07	1.8654E-17	1.2211E+08	2.0252E+19
Y-90	7.4028E+02	1.3607E-06	9.1045E+18	5.4841E+18
Y-91	1.2651E+02	5.1588E-06	3.4140E+19	1.8159E+18
Y-92	2.3379E-04	2.4297E-14	1.5904E+11	4.4036E+18
Y-93	1.6287E-01	4.8816E-11	3.1611E+14	4.3683E+17
Zr-95	1.2045E+02	5.6068E-06	3.5542E+19	1.8252E+18
Zr-97	2.3566E+00	1.2327E-09	7.6533E+15	6.0628E+17
Nb-95	1.2519E+02	3.2016E-06	2.0295E+19	1.8533E+18
Mo-99	5.7738E+02	1.2038E-06	7.3229E+18	1.5824E+19
Tc-99m	5.9195E+02	1.1257E-07	6.8479E+17	1.4910E+19
Ru-103	1.2950E+03	4.0125E-05	2.3460E+20	1.9930E+19
Ru-105	3.1144E-04	4.6331E-14	2.6572E+11	2.4124E+18
Ru-106	6.2214E+02	1.8596E-04	1.0565E+21	9.2381E+18
Rh-105	1.6576E+02	1.9638E-07	1.1263E+18	7.9931E+18
Sb-127	7.7923E+02	2.9179E-06	1.3836E+19	1.7730E+19
Sb-129	1.0069E-03	1.7905E-13	8.3588E+11	1.1668E+19
Te-127	1.0119E+03	3.8342E-07	1.8181E+18	1.9519E+19
Te-127m	2.6960E+02	2.8582E-05	1.3553E+20	4.0039E+18
Te-129	7.1159E+02	3.3979E-08	1.5862E+17	1.9279E+19
Te-129m	8.2292E+02	2.7317E-05	1.2752E+20	1.2737E+19
Te-131m	3.6253E+02	4.5464E-07	2.0900E+18	2.3422E+19
Te-132	1.0126E+04	3.3354E-05	1.5217E+20	2.5048E+20
I-131	8.2573E+04	6.6605E-04	3.0619E+21	1.4711E+21
I-132	1.2087E+04	1.1709E-06	5.3421E+18	5.9158E+20
I-133	9.8578E+03	8.7021E-06	3.9402E+19	1.3425E+21
I-135	9.6827E+00	2.7572E-09	1.2299E+16	6.4752E+20
Xe-133	5.6916E+07	3.0407E-01	1.3768E+24	9.5490E+23
Xe-135	3.6661E+04	1.4356E-05	6.4039E+19	9.0370E+22
Cs-134	1.9664E+04	1.5199E-02	6.8304E+22	3.0404E+20
Cs-136	4.6713E+03	6.3737E-05	2.8223E+20	8.1697E+19
Cs-137	1.5893E+04	1.8272E-01	8.0317E+23	2.4524E+20
Ba-140	1.0000E+04	1.3660E-04	5.8758E+20	1.6754E+20
La-140	8.8053E+03	1.5842E-05	6.8144E+19	7.3862E+19
La-141	5.1848E-06	9.1679E-16	3.9156E+09	2.6442E+17
Ce-141	2.6946E+02	9.4568E-06	4.0390E+19	4.1804E+18
Ce-143	3.8145E+01	5.7440E-08	2.4189E+17	2.1197E+18
Ce-144	2.3271E+02	7.2961E-05	3.0513E+20	3.4598E+18
Pr-143	1.1365E+02	1.6877E-06	7.1074E+18	1.7207E+18
Nd-147	3.5510E+01	4.3895E-07	1.7982E+18	6.0725E+17
Np-239	1.0519E+03	4.5344E-06	1.1425E+19	3.2270E+19
Pu-238	1.0415E+00	6.0838E-05	1.5394E+20	1.5396E+16
Pu-239	9.1258E-02	1.4682E-03	3.6995E+21	1.3448E+15
Pu-240	1.6838E-01	7.3896E-04	1.8542E+21	2.4897E+15
Pu-241	3.6035E+01	3.4981E-04	8.7411E+20	5.3297E+17
Am-241	2.6681E-02	7.7737E-06	1.9425E+19	3.8919E+14
Cm-242	6.2626E+00	1.8896E-06	4.7021E+18	9.3493E+16
Cm-244	4.4516E-01	5.5024E-06	1.3580E+19	6.5837E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9686E+25	0.0000E+00	
Elemental I (atoms)	3.3536E+20	5.6172E+22	
Organic I (atoms)	5.8198E+20	0.0000E+00	
Aerosols (kg)	2.1033E-01	6.1246E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.1332E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.1837E-05
Total I (Ci)			1.0453E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6922E+23

Elemental I (atoms)	0.0000E+00	7.1754E+18
Organic I (atoms)	0.0000E+00	1.0455E+19
Aerosols (kg)	0.0000E+00	4.3322E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6922E+23
Elemental I (atoms)	0.0000E+00	7.1754E+18
Organic I (atoms)	0.0000E+00	1.0455E+19
Aerosols (kg)	0.0000E+00	4.3322E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3429E+23
Elemental I (atoms)	0.0000E+00	3.5811E+18
Organic I (atoms)	0.0000E+00	5.2179E+18
Aerosols (kg)	0.0000E+00	2.1615E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5594E+27
Elemental I (atoms)	0.0000E+00	5.8618E+22
Organic I (atoms)	0.0000E+00	9.4830E+22
Aerosols (kg)	0.0000E+00	3.2273E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5457E+27
Elemental I (atoms)	0.0000E+00	5.8195E+22
Organic I (atoms)	0.0000E+00	9.4137E+22
Aerosols (kg)	0.0000E+00	3.2149E+01

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	1.4540E-02	4.5728E-10	4.7479E+15	5.3800E+08
Co-60	1.7619E-02	1.5587E-08	1.5645E+17	6.5191E+08
Kr-85	3.1381E+04	7.9985E-02	5.6669E+23	1.1611E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	5.6964E-01	7.0008E-09	4.9023E+16	2.1077E+10
Sr-89	2.6000E+01	8.9493E-07	6.0555E+18	9.6198E+11
Sr-90	3.5953E+00	2.6358E-05	1.7637E+20	1.3303E+11
Sr-91	1.1222E+01	3.0959E-09	2.0488E+16	4.1523E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	9.1005E-01	1.6727E-09	1.1192E+16	3.3672E+10
Y-91	3.7930E-01	1.5467E-08	1.0235E+17	1.4034E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3148E-01	3.9409E-11	2.5519E+14	4.8648E+09
Zr-95	3.8990E-01	1.8150E-08	1.1505E+17	1.4426E+10
Zr-97	1.7326E-01	9.0635E-11	5.6270E+14	6.4108E+09
Nb-95	3.9427E-01	1.0083E-08	6.3916E+16	1.4588E+10
Mo-99	3.7313E+00	7.7798E-09	4.7325E+16	1.3806E+11
Tc-99m	3.5875E+00	6.8226E-10	4.1501E+15	1.3274E+11
Ru-103	4.2699E+00	1.3230E-07	7.7354E+17	1.5799E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	1.9660E+00	5.8763E-07	3.3385E+18	7.2740E+10
Rh-105	2.0250E+00	2.3991E-09	1.3760E+16	7.4923E+10

Sb-127	4.0642E+00	1.5219E-08	7.2164E+16	1.5037E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	4.4561E+00	1.6885E-09	8.0066E+15	1.6488E+11
Te-127m	8.5189E-01	9.0314E-08	4.2826E+17	3.1520E+10
Te-129	5.4550E+00	2.6048E-10	1.2160E+15	2.0184E+11
Te-129m	2.7315E+00	9.0672E-08	4.2328E+17	1.0107E+11
Te-131m	6.1117E+00	7.6645E-09	3.5234E+16	2.2613E+11
Te-132	5.8167E+01	1.9160E-07	8.7410E+17	2.1522E+12
I-131	1.0940E+03	8.8240E-06	4.0564E+19	4.0476E+13
I-132	3.2155E+02	3.1152E-08	1.4212E+17	1.1897E+13
I-133	1.0782E+03	9.5177E-07	4.3095E+18	3.9893E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7409E+17	1.6722E+13
Xe-133	2.3708E+06	1.2666E-02	5.7349E+22	8.7719E+16
Xe-135	2.6014E+05	1.0187E-04	4.5442E+20	9.6253E+15
Cs-134	6.8153E+01	5.2675E-05	2.3673E+20	2.5217E+12
Cs-136	1.8756E+01	2.5592E-07	1.1332E+18	6.9398E+11
Cs-137	5.4951E+01	6.3175E-04	2.7770E+21	2.0332E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	3.6461E+01	4.9805E-07	2.1424E+18	1.3491E+12
La-140	1.2491E+01	2.2473E-08	9.6667E+16	4.6217E+11
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	8.9695E-01	3.1479E-08	1.3445E+17	3.3187E+10
Ce-143	5.4503E-01	8.2072E-10	3.4563E+15	2.0166E+10
Ce-144	7.3645E-01	2.3090E-07	9.6563E+17	2.7249E+10
Pr-143	3.6475E-01	5.4167E-09	2.2811E+16	1.3496E+10
Nd-147	1.3264E-01	1.6396E-09	6.7168E+15	4.9076E+09
Np-239	7.7314E+00	3.3326E-08	8.3973E+16	2.8606E+11
Pu-238	3.2737E-03	1.9122E-07	4.8385E+17	1.2113E+08
Pu-239	2.8574E-04	4.5971E-06	1.1583E+19	1.0572E+07
Pu-240	5.2941E-04	2.3233E-06	5.8297E+18	1.9588E+07
Pu-241	1.1334E-01	1.1002E-06	2.7492E+18	4.1935E+09
Am-241	8.2553E-05	2.4053E-08	6.0103E+16	3.0545E+06
Cm-242	1.9916E-02	6.0092E-09	1.4954E+16	7.3690E+08
Cm-244	1.4000E-03	1.7305E-08	4.2710E+16	5.1800E+07

Environment Transport Group Inventory:

Time (h) = 96.0000	Total Release	Release Rate/s
Noble gases (atoms)	6.2454E+23	1.8071E+18
Elemental I (atoms)	1.1086E+19	3.2077E+13
Organic I (atoms)	2.3675E+19	6.8503E+13
Aerosols (kg)	7.2458E-04	2.0966E-09
Dose Effective (Ci) I-131 (Thyroid)		1.2885E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.4325E+03
Total I (Ci)		3.0111E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5358E+23
Elemental I (atoms)	1.2944E+18	5.3969E+18
Organic I (atoms)	0.0000E+00	9.6916E+18
Aerosols (kg)	3.6670E-03	5.0859E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5343E+23
Elemental I (atoms)	1.9072E+18	3.9560E+18
Organic I (atoms)	0.0000E+00	9.6770E+18
Aerosols (kg)	7.7853E-04	1.9196E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1781E+23
Elemental I (atoms)	9.3647E+17	1.7821E+18
Organic I (atoms)	0.0000E+00	4.4295E+18
Aerosols (kg)	1.9515E-04	2.4046E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1173E+20
Elemental I (atoms)	5.4443E+15	1.5788E+14
Organic I (atoms)	8.4690E+15	9.3728E+13
Aerosols (kg)	3.8341E-07	1.7187E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6546E+19
Elemental I (atoms)	0.0000E+00	1.3939E+15
Organic I (atoms)	0.0000E+00	1.8921E+15
Aerosols (kg)	0.0000E+00	1.0919E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	2.5700E+20	0.0000E+00
Elemental I (atoms)	1.5393E+15	0.0000E+00
Organic I (atoms)	1.9688E+15	0.0000E+00
Aerosols (kg)	1.2621E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2816E+00	6.1508E+01	5.2443E+00
Accumulated dose (rem)	1.3827E+01	1.8609E+02	2.1951E+01

CR Air Intake Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.8717E-01	2.3917E+01	2.0392E+00
Accumulated dose (rem)	3.1306E+01	2.6384E+02	4.2881E+01

Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4222E-02	4.5088E+00	2.5134E-01
Accumulated dose (rem)	1.0958E+00	5.4863E+01	3.4939E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	9.8891E+05	2.5206E+00	1.7858E+25	3.2148E+22
Kr-85m	1.1876E-09	1.4431E-19	1.0224E+06	1.2265E+22
Rb-86	1.1595E+02	1.4250E-06	9.9788E+18	5.0214E+18
Sr-89	7.1661E+03	2.4666E-04	1.6690E+21	2.6656E+20
Sr-90	1.1159E+03	8.1807E-03	5.4739E+22	3.8572E+19
Sr-91	2.5299E-04	6.9790E-14	4.6185E+11	3.7222E+19
Y-90	1.0382E+03	1.9082E-06	1.2768E+19	2.3211E+19
Y-91	1.1508E+02	4.6924E-06	3.1053E+19	4.1311E+18

Y-93	8.1198E-06	2.4337E-15	1.5760E+10	4.3714E+17
Zr-95	1.1020E+02	5.1299E-06	3.2519E+19	4.0356E+18
Zr-97	6.2649E-03	3.2772E-12	2.0346E+13	6.1389E+17
Nb-95	1.2117E+02	3.0988E-06	1.9644E+19	4.2159E+18
Mo-99	1.2425E+02	2.5906E-07	1.5758E+18	2.1481E+19
Tc-99m	1.2738E+02	2.4226E-08	1.4736E+17	2.0417E+19
Ru-103	1.1374E+03	3.5242E-05	2.0605E+20	4.3223E+19
Ru-106	6.0063E+02	1.7953E-04	1.0199E+21	2.0963E+19
Rh-105	9.6200E+00	1.1397E-08	6.5368E+16	9.0450E+18
Sb-127	2.5831E+02	9.6728E-07	4.5867E+18	2.6778E+19
Te-127	5.0607E+02	1.9176E-07	9.0928E+17	3.2765E+19
Te-127m	2.5651E+02	2.7194E-05	1.2895E+20	9.0532E+18
Te-129	6.1390E+02	2.9314E-08	1.3685E+17	2.8834E+19
Te-129m	7.0995E+02	2.3566E-05	1.1002E+20	2.7410E+19
Te-131m	1.2706E+01	1.5935E-08	7.3253E+16	2.5424E+19
Te-132	2.7589E+03	9.0875E-06	4.1459E+19	3.5914E+20
I-131	4.8092E+04	3.8791E-04	1.7833E+21	2.6946E+21
I-132	3.2931E+03	3.1903E-07	1.4555E+18	7.0406E+20
I-133	7.9314E+01	7.0015E-08	3.1702E+17	1.3813E+21
I-135	2.6159E-06	7.4489E-16	3.3228E+09	6.4754E+20
Xe-133	2.5148E+07	1.3435E-01	6.0834E+23	1.7009E+24
Xe-135	6.0996E-01	2.3885E-10	1.0655E+15	9.0434E+22
Cs-134	1.9094E+04	1.4758E-02	6.6324E+22	6.7569E+20
Cs-136	3.3204E+03	4.5304E-05	2.0061E+20	1.5760E+20
Cs-137	1.5512E+04	1.7834E-01	7.8391E+23	5.4639E+20
Ba-140	7.0446E+03	9.6226E-05	4.1392E+20	3.2934E+20
La-140	7.9530E+03	1.4308E-05	6.1548E+19	2.4064E+20
Ce-141	2.3149E+02	8.1244E-06	3.4699E+19	8.9751E+18
Ce-143	1.8091E+00	2.7243E-09	1.1473E+16	2.3483E+18
Ce-144	2.2391E+02	7.0204E-05	2.9359E+20	7.8381E+18
Pr-143	8.4547E+01	1.2556E-06	5.2875E+18	3.6210E+18
Nd-147	2.3740E+01	2.9345E-07	1.2022E+18	1.1679E+18
Np-239	1.7565E+02	7.5715E-07	1.9078E+18	4.1660E+19
Pu-238	1.0176E+00	5.9440E-05	1.5040E+20	3.5141E+16
Pu-239	8.9332E-02	1.4372E-03	3.6214E+21	3.0772E+15
Pu-240	1.6441E-01	7.2151E-04	1.8104E+21	5.6809E+15
Pu-241	3.5156E+01	3.4128E-04	8.5280E+20	1.2156E+18
Am-241	2.6976E-02	7.8599E-06	1.9640E+19	9.0373E+14
Cm-242	5.9605E+00	1.7984E-06	4.4753E+18	2.1068E+17
Cm-244	4.3437E-01	5.3691E-06	1.3251E+19	1.5018E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	1.8466E+25	0.0000E+00
Elemental I (atoms)	1.9270E+20	5.6172E+22
Organic I (atoms)	3.3440E+20	0.0000E+00
Aerosols (kg)	2.0490E-01	6.1246E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		1.7889E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.7929E-05
Total I (Ci)		5.1464E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7204E+23
Elemental I (atoms)	0.0000E+00	1.1266E+19
Organic I (atoms)	0.0000E+00	1.7554E+19
Aerosols (kg)	0.0000E+00	7.6362E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7204E+23
Elemental I (atoms)	0.0000E+00	1.1266E+19
Organic I (atoms)	0.0000E+00	1.7554E+19

Aerosols (kg)	0.0000E+00	7.6362E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8483E+23
Elemental I (atoms)	0.0000E+00	5.6149E+18
Organic I (atoms)	0.0000E+00	8.7473E+18
Aerosols (kg)	0.0000E+00	3.8041E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.1932E+27
Elemental I (atoms)	0.0000E+00	1.0771E+23
Organic I (atoms)	0.0000E+00	1.8002E+23
Aerosols (kg)	0.0000E+00	7.1921E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.1797E+27
Elemental I (atoms)	0.0000E+00	1.0729E+23
Organic I (atoms)	0.0000E+00	1.7934E+23
Aerosols (kg)	0.0000E+00	7.1800E+01

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	2.6510E-02	8.3371E-10	8.6564E+15	9.8088E+08
Co-60	3.2922E-02	2.9125E-08	2.9232E+17	1.2181E+09
Kr-85	7.1234E+04	1.8156E-01	1.2864E+24	2.6357E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	9.3353E-01	1.1473E-08	8.0340E+16	3.4541E+10
Sr-89	4.6930E+01	1.6154E-06	1.0930E+19	1.7364E+12
Sr-90	6.7233E+00	4.9288E-05	3.2980E+20	2.4876E+11
Sr-91	1.1225E+01	3.0965E-09	2.0492E+16	4.1532E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	3.4896E+00	6.4140E-09	4.2918E+16	1.2912E+11
Y-91	7.1350E-01	2.9094E-08	1.9254E+17	2.6399E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3152E-01	3.9422E-11	2.5527E+14	4.8664E+09
Zr-95	7.0898E-01	3.3002E-08	2.0920E+17	2.6232E+10
Zr-97	1.7434E-01	9.1197E-11	5.6619E+14	6.4506E+09
Nb-95	7.3552E-01	1.8810E-08	1.1924E+17	2.7214E+10
Mo-99	4.5438E+00	9.4739E-09	5.7630E+16	1.6812E+11
Tc-99m	4.4205E+00	8.4068E-10	5.1138E+15	1.6356E+11
Ru-103	7.6318E+00	2.3647E-07	1.3826E+18	2.8238E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	3.6587E+00	1.0936E-06	6.2130E+18	1.3537E+11
Rh-105	2.1754E+00	2.5773E-09	1.4782E+16	8.0488E+10
Sb-127	5.3657E+00	2.0092E-08	9.5275E+16	1.9853E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	6.4310E+00	2.4368E-09	1.1555E+16	2.3795E+11
Te-127m	1.5809E+00	1.6760E-07	7.9473E+17	5.8493E+10
Te-129	7.2861E+00	3.4791E-10	1.6242E+15	2.6959E+11
Te-129m	4.8491E+00	1.6097E-07	7.5144E+17	1.7942E+11
Te-131m	6.3975E+00	8.0229E-09	3.6882E+16	2.3671E+11
Te-132	7.3787E+01	2.4305E-07	1.1088E+18	2.7301E+12
I-131	1.7292E+03	1.3948E-05	6.4118E+19	6.3979E+13
I-132	3.7141E+02	3.5982E-08	1.6416E+17	1.3742E+13
I-133	1.0981E+03	9.6933E-07	4.3891E+18	4.0629E+13

I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7410E+17	1.6723E+13
Xe-133	3.9145E+06	2.0913E-02	9.4691E+22	1.4484E+17
Xe-135	2.6027E+05	1.0192E-04	4.5464E+20	9.6301E+15
Cs-134	1.2181E+02	9.4149E-05	4.2312E+20	4.5071E+12
Cs-136	2.9703E+01	4.0528E-07	1.7946E+18	1.0990E+12
Cs-137	9.8431E+01	1.1316E-03	4.9743E+21	3.6420E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	5.9796E+01	8.1679E-07	3.5134E+18	2.2125E+12
La-140	3.6766E+01	6.6146E-08	2.8453E+17	1.3603E+12
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	1.5889E+00	5.5764E-08	2.3817E+17	5.8790E+10
Ce-143	5.7769E-01	8.6990E-10	3.6634E+15	2.1374E+10
Ce-144	1.3686E+00	4.2909E-07	1.7945E+18	5.0637E+10
Pr-143	6.3891E-01	9.4879E-09	3.9956E+16	2.3639E+10
Nd-147	2.1348E-01	2.6388E-09	1.0811E+16	7.8987E+09
Np-239	9.0789E+00	3.9134E-08	9.8608E+16	3.3592E+11
Pu-238	6.1246E-03	3.5775E-07	9.0522E+17	2.2661E+08
Pu-239	5.3586E-04	8.6211E-06	2.1723E+19	1.9827E+07
Pu-240	9.9016E-04	4.3454E-06	1.0903E+19	3.6636E+07
Pu-241	2.1190E-01	2.0570E-06	5.1402E+18	7.8403E+09
Am-241	1.5686E-04	4.5703E-08	1.1420E+17	5.8039E+06
Cm-242	3.6835E-02	1.1114E-08	2.7657E+16	1.3629E+09
Cm-244	2.6177E-03	3.2356E-08	7.9858E+16	9.6855E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	1.3816E+24	1.5990E+18	
Elemental I (atoms)	1.2432E+19	1.4389E+13	
Organic I (atoms)	4.1356E+19	4.7865E+13	
Aerosols (kg)	1.2994E-03	1.5040E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.9273E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.0748E+03
Total I (Ci)			3.7161E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5674E+23
Elemental I (atoms)	4.2461E+18	6.5408E+18
Organic I (atoms)	0.0000E+00	1.6799E+19
Aerosols (kg)	6.5719E-03	9.1147E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5660E+23
Elemental I (atoms)	3.6652E+18	4.0922E+18
Organic I (atoms)	0.0000E+00	1.6783E+19
Aerosols (kg)	1.3955E-03	3.4408E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6872E+23
Elemental I (atoms)	1.8617E+18	1.8538E+18
Organic I (atoms)	0.0000E+00	7.9659E+18
Aerosols (kg)	3.5626E-04	4.3897E-05

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6869E+20
Elemental I (atoms)	5.7217E+15	1.6068E+14
Organic I (atoms)	1.2111E+16	1.3052E+14
Aerosols (kg)	5.0138E-07	1.8379E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.0989E+19
Elemental I (atoms)	0.0000E+00	1.4553E+15
Organic I (atoms)	0.0000E+00	2.6995E+15
Aerosols (kg)	0.0000E+00	1.3534E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	4.4859E+20	0.0000E+00
Elemental I (atoms)	1.6041E+15	0.0000E+00
Organic I (atoms)	2.8139E+15	0.0000E+00
Aerosols (kg)	1.5357E-07	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7139E+00	6.7879E+01	7.1133E+00
Accumulated dose (rem)	1.5540E+01	2.5397E+02	2.9064E+01

CR Air Intake Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.6644E-01	2.6395E+01	2.7660E+00
Accumulated dose (rem)	3.1973E+01	2.9024E+02	4.5647E+01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5463E-02	4.9675E+00	4.2056E-01
Accumulated dose (rem)	1.1213E+00	5.9831E+01	3.9145E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	9.0997E+05	2.3194E+00	1.6432E+25	9.2811E+22
Rb-86	5.0937E+01	6.2602E-07	4.3837E+18	1.0074E+19
Sr-89	5.0288E+03	1.7310E-04	1.1713E+21	6.5235E+20
Sr-90	1.0291E+03	7.5445E-03	5.0482E+22	1.0710E+20
Y-90	1.0345E+03	1.9015E-06	1.2723E+19	9.0745E+19
Y-91	8.3848E+01	3.4190E-06	2.2626E+19	1.0437E+19
Zr-95	8.1942E+01	3.8143E-06	2.4179E+19	1.0133E+19
Zr-97	1.6306E-11	8.5299E-21	5.2957E+04	6.1391E+17
Nb-95	1.0475E+02	2.6789E-06	1.6982E+19	1.1452E+19
Mo-99	7.4197E-01	1.5470E-09	9.4105E+15	2.3023E+19
Tc-99m	7.6070E-01	1.4467E-10	8.8001E+14	2.1918E+19
Ru-103	7.3798E+02	2.2866E-05	1.3369E+20	1.0225E+20
Ru-106	5.3415E+02	1.5966E-04	9.0705E+20	5.7195E+19
Rh-105	7.2812E-04	8.6264E-13	4.9476E+12	9.1098E+18
Sb-127	6.5127E+00	2.4387E-08	1.1564E+17	3.1152E+19
Te-127	2.2037E+02	8.3501E-08	3.9595E+17	5.1407E+19
Te-127m	2.0992E+02	2.2255E-05	1.0553E+20	2.3936E+19
Te-129	3.7525E+02	1.7918E-08	8.3648E+16	5.2178E+19
Te-129m	4.3396E+02	1.4405E-05	6.7248E+19	6.3255E+19

Te-131m	1.7904E-04	2.2453E-13	1.0322E+12	2.5497E+19
Te-132	3.6174E+01	1.1915E-07	5.4360E+17	3.9930E+20
I-131	7.9189E+03	6.3875E-05	2.9364E+20	4.1184E+21
I-132	4.3177E+01	4.1829E-09	1.9083E+16	7.4563E+20
I-133	8.2777E-06	7.3072E-15	3.3087E+10	1.3817E+21
Xe-133	1.6521E+06	8.8263E-03	3.9965E+22	2.2526E+24
Cs-134	1.7311E+04	1.3380E-02	6.0129E+22	1.8385E+21
Cs-136	1.0642E+03	1.4520E-05	6.4294E+19	2.8436E+20
Cs-137	1.4306E+04	1.6447E-01	7.2298E+23	1.4990E+21
Ba-140	2.1912E+03	2.9931E-05	1.2875E+20	5.9504E+20
La-140	2.5454E+03	4.5794E-06	1.9698E+19	5.4522E+20
Ce-141	1.3954E+02	4.8973E-06	2.0916E+19	2.0588E+19
Ce-143	6.9865E-05	1.0521E-13	4.4305E+11	2.3597E+18
Ce-144	1.9693E+02	6.1743E-05	2.5821E+20	2.1272E+19
Pr-143	2.8155E+01	4.1811E-07	1.7608E+18	6.9031E+18
Nd-147	6.2025E+00	7.6670E-08	3.1409E+17	2.0032E+18
Np-239	4.5035E-01	1.9412E-09	4.8913E+15	4.3537E+19
Pu-238	9.4155E-01	5.4998E-05	1.3916E+20	9.7736E+16
Pu-239	8.2535E-02	1.3279E-03	3.3458E+21	8.5690E+15
Pu-240	1.5182E-01	6.6628E-04	1.6718E+21	1.5784E+16
Pu-241	3.2379E+01	3.1432E-04	7.8543E+20	3.3732E+18
Am-241	2.7756E-02	8.0870E-06	2.0208E+19	2.6547E+15
Cm-242	5.0548E+00	1.5252E-06	3.7953E+18	5.6200E+17
Cm-244	4.0028E-01	4.9476E-06	1.2211E+19	4.1683E+16

Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6472E+25	0.0000E+00	
Elemental I (atoms)	3.1701E+19	5.6172E+22	
Organic I (atoms)	5.5012E+19	0.0000E+00	
Aerosols (kg)	1.8835E-01	6.1246E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9438E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9443E-06
Total I (Ci)			7.9620E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4922E+24
Elemental I (atoms)	0.0000E+00	1.6006E+19
Organic I (atoms)	0.0000E+00	2.5780E+19
Aerosols (kg)	0.0000E+00	1.8059E-02

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4922E+24
Elemental I (atoms)	0.0000E+00	1.6006E+19
Organic I (atoms)	0.0000E+00	2.5780E+19
Aerosols (kg)	0.0000E+00	1.8059E-02

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4229E+23
Elemental I (atoms)	0.0000E+00	7.9714E+18
Organic I (atoms)	0.0000E+00	1.2837E+19
Aerosols (kg)	0.0000E+00	8.9858E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7235E+28

Elemental I (atoms)	0.0000E+00	1.6459E+23
Organic I (atoms)	0.0000E+00	2.7873E+23
Aerosols (kg)	0.0000E+00	1.9700E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7223E+28
Elemental I (atoms)	0.0000E+00	1.6418E+23
Organic I (atoms)	0.0000E+00	2.7805E+23
Aerosols (kg)	0.0000E+00	1.9689E+02

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	5.9965E-02	1.8858E-09	1.9580E+16	2.2187E+09
Co-60	8.1146E-02	7.1786E-08	7.2051E+17	3.0024E+09
Kr-85	1.9712E+05	5.0242E-01	3.5596E+24	7.2933E+15
Kr-85m	3.2276E+04	3.9220E-06	2.7787E+19	1.1942E+15
Kr-87	7.8107E+03	2.7575E-07	1.9087E+18	2.8900E+14
Kr-88	4.4687E+04	3.5638E-06	2.4388E+19	1.6534E+15
Rb-86	1.6625E+00	2.0432E-08	1.4308E+17	6.1513E+10
Sr-89	1.0262E+02	3.5321E-06	2.3900E+19	3.7968E+12
Sr-90	1.6618E+01	1.2182E-04	8.1516E+20	6.1485E+11
Sr-91	1.1225E+01	3.0965E-09	2.0492E+16	4.1532E+11
Sr-92	4.9928E+00	3.9722E-10	2.6001E+15	1.8473E+11
Y-90	1.3295E+01	2.4436E-08	1.6351E+17	4.9190E+11
Y-91	1.6238E+00	6.6211E-08	4.3817E+17	6.0079E+10
Y-92	2.6651E+00	2.7697E-10	1.8130E+15	9.8608E+10
Y-93	1.3152E-01	3.9422E-11	2.5527E+14	4.8664E+09
Zr-95	1.5892E+00	7.3973E-08	4.6892E+17	5.8799E+10
Zr-97	1.7434E-01	9.1199E-11	5.6620E+14	6.4507E+09
Nb-95	1.7806E+00	4.5536E-08	2.8866E+17	6.5883E+10
Mo-99	4.7653E+00	9.9357E-09	6.0439E+16	1.7632E+11
Tc-99m	4.6475E+00	8.8386E-10	5.3765E+15	1.7196E+11
Ru-103	1.6151E+01	5.0045E-07	2.9260E+18	5.9760E+11
Ru-105	6.8135E-01	1.0136E-10	5.8134E+14	2.5210E+10
Ru-106	8.8898E+00	2.6572E-06	1.5096E+19	3.2892E+11
Rh-105	2.1846E+00	2.5882E-09	1.4845E+16	8.0831E+10
Sb-127	5.9949E+00	2.2448E-08	1.0645E+17	2.2181E+11
Sb-129	3.2767E+00	5.8270E-10	2.7202E+15	1.2124E+11
Te-127	9.2186E+00	3.4931E-09	1.6564E+16	3.4109E+11
Te-127m	3.7295E+00	3.9539E-07	1.8749E+18	1.3799E+11
Te-129	1.1759E+01	5.6151E-10	2.6213E+15	4.3510E+11
Te-129m	1.0022E+01	3.3268E-07	1.5531E+18	3.7082E+11
Te-131m	6.4079E+00	8.0359E-09	3.6941E+16	2.3709E+11
Te-132	7.9560E+01	2.6206E-07	1.1956E+18	2.9437E+12
I-131	2.4301E+03	1.9601E-05	9.0108E+19	8.9912E+13
I-132	3.8913E+02	3.7698E-08	1.7199E+17	1.4398E+13
I-133	1.0982E+03	9.6947E-07	4.3897E+18	4.0634E+13
I-134	6.5499E+01	2.4553E-09	1.1034E+16	2.4234E+12
I-135	4.5196E+02	1.2870E-07	5.7410E+17	1.6723E+13
Xe-133	5.0562E+06	2.7012E-02	1.2231E+23	1.8708E+17
Xe-135	2.6027E+05	1.0192E-04	4.5464E+20	9.6301E+15
Cs-134	2.8969E+02	2.2390E-04	1.0063E+21	1.0719E+13
Cs-136	4.7985E+01	6.5472E-07	2.8991E+18	1.7755E+12
Cs-137	2.3597E+02	2.7129E-03	1.1925E+22	8.7310E+12
Ba-139	2.9305E+00	1.7916E-10	7.7620E+14	1.0843E+11
Ba-140	9.8115E+01	1.3402E-06	5.7649E+18	3.6302E+12
La-140	8.1025E+01	1.4577E-07	6.2705E+17	2.9979E+12
La-141	7.2694E-02	1.2854E-11	5.4899E+13	2.6897E+09
La-142	3.0053E-02	2.0994E-12	8.9035E+12	1.1120E+09
Ce-141	3.2649E+00	1.1459E-07	4.8939E+17	1.2080E+11
Ce-143	5.7931E-01	8.7235E-10	3.6737E+15	2.1435E+10
Ce-144	3.3081E+00	1.0372E-06	4.3376E+18	1.2240E+11
Pr-143	1.1123E+00	1.6518E-08	6.9561E+16	4.1154E+10

Nd-147	3.3393E-01	4.1277E-09	1.6910E+16	1.2355E+10
Np-239	9.3483E+00	4.0296E-08	1.0153E+17	3.4589E+11
Pu-238	1.5162E-02	8.8565E-07	2.2410E+18	5.6100E+08
Pu-239	1.3288E-03	2.1378E-05	5.3867E+19	4.9165E+07
Pu-240	2.4489E-03	1.0747E-05	2.6966E+19	9.0608E+07
Pu-241	5.2342E-01	5.0811E-06	1.2697E+19	1.9366E+10
Am-241	4.0973E-04	1.1938E-07	2.9830E+17	1.5160E+07
Cm-242	8.7554E-02	2.6417E-08	6.5739E+16	3.2395E+09
Cm-244	6.4677E-03	7.9944E-08	1.9731E+17	2.3930E+08

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	3.6824E+24	1.4207E+18
Elemental I (atoms)	1.2573E+19	4.8508E+12
Organic I (atoms)	6.1849E+19	2.3862E+13
Aerosols (kg)	3.1129E-03	1.2010E-09

Dose Effective (Ci) I-131 (Thyroid)	2.6283E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	2.7764E+03
Total I (Ci)	4.4349E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4780E+24
Elemental I (atoms)	8.8615E+18	6.6708E+18
Organic I (atoms)	0.0000E+00	2.5034E+19
Aerosols (kg)	1.5736E-02	2.1824E-03

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4778E+24
Elemental I (atoms)	3.9894E+18	4.0994E+18
Organic I (atoms)	0.0000E+00	2.5018E+19
Aerosols (kg)	3.3417E-03	8.2397E-04

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2728E+23
Elemental I (atoms)	2.0540E+18	1.8580E+18
Organic I (atoms)	0.0000E+00	1.2065E+19
Aerosols (kg)	8.6448E-04	1.0652E-04

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.4564E+20
Elemental I (atoms)	5.7507E+15	1.6097E+14
Organic I (atoms)	1.6332E+16	1.7315E+14
Aerosols (kg)	8.7351E-07	2.2137E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8565E+20
Elemental I (atoms)	0.0000E+00	1.4618E+15
Organic I (atoms)	0.0000E+00	3.6351E+15
Aerosols (kg)	0.0000E+00	2.1783E-07

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.0303E+21	0.0000E+00
Elemental I (atoms)	1.6110E+15	0.0000E+00
Organic I (atoms)	3.7922E+15	0.0000E+00
Aerosols (kg)	2.3983E-07	0.0000E+00

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#####################################################################
                          I-131 Summary
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Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5610E+03	0.0000E+00	0.0000E+00
0.033	2.6763E+05	0.0000E+00	0.0000E+00
0.167	1.2414E+06	3.7415E+01	3.7117E+01
0.500	5.4081E+05	1.0715E+02	1.0324E+02
0.667	8.5903E+05	1.4446E+02	1.3790E+02
1.000	9.0006E+05	2.2451E+02	2.1061E+02
1.160	9.0687E+05	2.5935E+02	2.4115E+02
1.410	9.1483E+05	3.0914E+02	2.8353E+02
1.660	9.2071E+05	3.5365E+02	3.2008E+02
1.910	9.2529E+05	3.9335E+02	3.5154E+02
2.000	9.2672E+05	4.0656E+02	3.6175E+02
2.200	1.1548E+05	3.9736E+02	3.4882E+02
2.300	8.0589E+04	3.8779E+02	3.3761E+02
2.600	1.6647E+05	3.6338E+02	3.0907E+02
2.900	1.6838E+05	3.4321E+02	2.8580E+02
3.200	1.5015E+05	3.2408E+02	2.6439E+02
3.500	1.2967E+05	3.0530E+02	2.4408E+02
3.800	1.1150E+05	2.8689E+02	2.2479E+02
4.000	1.0111E+05	2.7490E+02	2.1253E+02
4.300	1.1082E+05	2.5823E+02	1.9587E+02
4.600	1.1431E+05	2.4337E+02	1.8141E+02
4.900	1.1551E+05	2.2991E+02	1.6868E+02
5.200	1.1587E+05	2.1764E+02	1.5739E+02
5.500	1.1591E+05	2.0643E+02	1.4735E+02
5.800	1.1585E+05	1.9617E+02	1.3840E+02
6.100	1.1574E+05	1.8679E+02	1.3044E+02
6.400	1.1561E+05	1.7819E+02	1.2334E+02
6.700	1.1548E+05	1.7032E+02	1.1701E+02
7.000	1.1535E+05	1.6311E+02	1.1137E+02
7.300	1.1522E+05	1.5650E+02	1.0634E+02
7.600	1.1508E+05	1.5045E+02	1.0186E+02
7.900	1.1495E+05	1.4491E+02	9.7857E+01
8.000	1.1491E+05	1.4317E+02	9.6621E+01
8.300	1.1477E+05	1.3823E+02	9.3183E+01
8.600	1.1464E+05	1.3371E+02	9.0114E+01
8.900	1.1451E+05	1.2957E+02	8.7374E+01
9.200	1.1438E+05	1.2577E+02	8.4927E+01
9.500	1.1424E+05	1.2228E+02	8.2739E+01
9.800	1.1411E+05	1.1909E+02	8.0784E+01
10.100	1.1398E+05	1.1615E+02	7.9035E+01
10.400	1.1385E+05	1.1346E+02	7.7470E+01
24.000	1.0802E+05	8.1747E+01	6.2103E+01
48.000	9.8800E+04	7.4616E+01	5.6966E+01
72.000	9.0333E+04	6.8217E+01	5.2086E+01
96.000	8.2573E+04	6.2357E+01	4.7612E+01
240.000	4.8092E+04	3.6318E+01	2.7730E+01
720.000	7.9189E+03	5.9801E+00	4.5660E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)

0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.2071E-01	1.8866E+01	4.4617E-02
0.500	3.5696E+00	5.6079E+01	5.7917E-01
0.667	5.5606E+00	7.6537E+01	9.6772E-01
1.000	1.0557E+01	1.2177E+02	2.0506E+00
1.160	1.3174E+01	1.4236E+02	2.6867E+00
1.410	1.7253E+01	1.7291E+02	3.7868E+00
1.660	2.1146E+01	2.0149E+02	4.9775E+00
1.910	2.4751E+01	2.2819E+02	6.2239E+00
2.000	2.5969E+01	2.3735E+02	6.6809E+00
2.200	2.7288E+01	2.3608E+02	7.2516E+00
2.300	2.7709E+01	2.3284E+02	7.5070E+00
2.600	2.8189E+01	2.2482E+02	8.1577E+00
2.900	2.7920E+01	2.1834E+02	8.6717E+00
3.200	2.7213E+01	2.1185E+02	9.0772E+00
3.500	2.6235E+01	2.0506E+02	9.3914E+00
3.800	2.5095E+01	1.9800E+02	9.6275E+00
4.000	2.4282E+01	1.9320E+02	9.7471E+00
4.300	2.3032E+01	1.8635E+02	9.8781E+00
4.600	2.1804E+01	1.8005E+02	9.9619E+00
4.900	2.0633E+01	1.7416E+02	1.0008E+01
5.200	1.9540E+01	1.6860E+02	1.0025E+01
5.500	1.8532E+01	1.6335E+02	1.0017E+01
5.800	1.7609E+01	1.5838E+02	9.9911E+00
6.100	1.6769E+01	1.5367E+02	9.9503E+00
6.400	1.6009E+01	1.4921E+02	9.8983E+00
6.700	1.5324E+01	1.4498E+02	9.8376E+00
7.000	1.4707E+01	1.4097E+02	9.7707E+00
7.300	1.4152E+01	1.3717E+02	9.6993E+00
7.600	1.3654E+01	1.3357E+02	9.6248E+00
7.900	1.3208E+01	1.3016E+02	9.5486E+00
8.000	1.3070E+01	1.2906E+02	9.5230E+00
8.300	1.2674E+01	1.2588E+02	9.4403E+00
8.600	1.2322E+01	1.2287E+02	9.3587E+00
8.900	1.2008E+01	1.2001E+02	9.2786E+00
9.200	1.1728E+01	1.1731E+02	9.2004E+00
9.500	1.1478E+01	1.1474E+02	9.1242E+00
9.800	1.1255E+01	1.1230E+02	9.0503E+00
10.100	1.1055E+01	1.0999E+02	8.9787E+00
10.400	1.0876E+01	1.0780E+02	8.9095E+00
24.000	9.0367E+00	6.9876E+01	7.4528E+00
48.000	8.2086E+00	6.0973E+01	6.6159E+00
72.000	7.3133E+00	5.5435E+01	5.8535E+00
96.000	6.4234E+00	5.0640E+01	5.1009E+00
240.000	3.5703E+00	2.9491E+01	2.8055E+00
720.000	5.2566E-01	4.8560E+00	3.9798E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6800E+00
0.033	0.0000E+00	0.0000E+00	5.8218E+03
0.167	1.6941E-01	5.4541E-04	1.2678E+05
0.500	2.7282E+00	5.7086E-03	2.7011E+05
0.667	4.9805E+00	8.7701E-03	3.3818E+05
1.000	1.2062E+01	6.5110E-03	4.6011E+05
1.160	1.6731E+01	6.0622E-03	4.9801E+05
1.410	2.5648E+01	5.9032E-03	5.3951E+05
1.660	3.6470E+01	6.1935E-03	5.6642E+05
1.910	4.9099E+01	6.7620E-03	5.8407E+05
2.000	5.4067E+01	7.0111E-03	5.8885E+05
2.200	6.0768E+01	6.2434E-03	4.6289E+05
2.300	6.4126E+01	5.9448E-03	3.9016E+05
2.600	7.4126E+01	5.2799E-03	2.5572E+05
2.900	8.3997E+01	4.8508E-03	1.9123E+05
3.200	9.3702E+01	4.5603E-03	1.5237E+05
3.500	1.0321E+02	4.3492E-03	1.2504E+05

3.800	1.1249E+02	4.1829E-03	1.0427E+05
4.000	1.1854E+02	4.0868E-03	9.2979E+04
4.300	1.2742E+02	3.9569E-03	8.3046E+04
4.600	1.3608E+02	3.8400E-03	7.9332E+04
4.900	1.4452E+02	3.7336E-03	7.7908E+04
5.200	1.5276E+02	3.6360E-03	7.7328E+04
5.500	1.6082E+02	3.5462E-03	7.7058E+04
5.800	1.6871E+02	3.4635E-03	7.6902E+04
6.100	1.7645E+02	3.3874E-03	7.6789E+04
6.400	1.8404E+02	3.3175E-03	7.6691E+04
6.700	1.9150E+02	3.2533E-03	7.6599E+04
7.000	1.9884E+02	3.1945E-03	7.6509E+04
7.300	2.0607E+02	3.1407E-03	7.6421E+04
7.600	2.1320E+02	3.0914E-03	7.6332E+04
7.900	2.2024E+02	3.0464E-03	7.6244E+04
8.000	2.2257E+02	3.0323E-03	7.6214E+04
8.300	2.2942E+02	2.3335E-03	7.6126E+04
8.600	2.3618E+02	1.8996E-03	7.6038E+04
8.900	2.4288E+02	1.6288E-03	7.5950E+04
9.200	2.4952E+02	1.4584E-03	7.5863E+04
9.500	2.5610E+02	1.3501E-03	7.5775E+04
9.800	2.6264E+02	1.2800E-03	7.5687E+04
10.100	2.6912E+02	1.2338E-03	7.5600E+04
10.400	2.7556E+02	1.2026E-03	7.5512E+04
24.000	5.4815E+02	1.0424E-03	7.1644E+04
48.000	7.6196E+02	3.0279E-04	6.5525E+04
72.000	9.4230E+02	2.5510E-04	5.9910E+04
96.000	1.0940E+03	2.1455E-04	5.4764E+04
240.000	1.7292E+03	9.7447E-05	3.1895E+04
720.000	2.4301E+03	1.5216E-05	5.2519E+03

##
Cumulative Dose Summary
##

	Exclusion Area Bounda		CR Air Intake		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2928E-02	1.2017E-03	1.1875E-01	6.2238E-03	2.1347E-02	8.9406E-04
0.500	3.6810E-01	2.0844E-02	1.9065E+00	1.0796E-01	8.6324E-01	3.5967E-02
0.667	6.7172E-01	4.1001E-02	3.4790E+00	2.1235E-01	1.8732E+00	7.8419E-02
1.000	1.6316E+00	1.2834E-01	8.4504E+00	6.6469E-01	3.9679E+00	1.6987E-01
1.160	2.2649E+00	2.0029E-01	1.1731E+01	1.0373E+00	4.8083E+00	2.0901E-01
1.410	3.4740E+00	3.6044E-01	1.7993E+01	1.8668E+00	6.0541E+00	2.7209E-01
1.660	4.9396E+00	5.8457E-01	2.5583E+01	3.0277E+00	7.3182E+00	3.4352E-01
1.910	6.6465E+00	8.7643E-01	3.4424E+01	4.5393E+00	8.6753E+00	4.2801E-01
2.000	7.3169E+00	9.9839E-01	3.7896E+01	5.1710E+00	9.1959E+00	4.6225E-01
2.200	8.2205E+00	1.1700E+00	4.1712E+01	5.8959E+00	1.0306E+01	5.3725E-01
2.300	8.6723E+00	1.2591E+00	4.3620E+01	6.2718E+00	1.0818E+01	5.7241E-01
2.600	1.0014E+01	1.5358E+00	4.9287E+01	7.4403E+00	1.2222E+01	6.7153E-01
2.900	1.1333E+01	1.8231E+00	5.4858E+01	8.6538E+00	1.3487E+01	7.6437E-01
3.200	1.2625E+01	2.1168E+00	6.0313E+01	9.8942E+00	1.4661E+01	8.5347E-01
3.500	1.3885E+01	2.4132E+00	6.5635E+01	1.1146E+01	1.5768E+01	9.4004E-01
3.800	1.5110E+01	2.7095E+00	7.0809E+01	1.2397E+01	1.6825E+01	1.0246E+00
4.000	1.5907E+01	2.9057E+00	7.4174E+01	1.3226E+01	1.7506E+01	1.0799E+00
4.300	1.7072E+01	3.1968E+00	7.9093E+01	1.4455E+01	1.8497E+01	1.1613E+00
4.600	1.8203E+01	3.4828E+00	8.3868E+01	1.5663E+01	1.9453E+01	1.2407E+00
4.900	1.9301E+01	3.7628E+00	8.8507E+01	1.6845E+01	2.0379E+01	1.3180E+00
5.200	2.0370E+01	4.0359E+00	9.3019E+01	1.7999E+01	2.1276E+01	1.3932E+00
5.500	2.1410E+01	4.3018E+00	9.7415E+01	1.9122E+01	2.2148E+01	1.4662E+00
5.800	2.2426E+01	4.5600E+00	1.0170E+02	2.0212E+01	2.2995E+01	1.5371E+00
6.100	2.3417E+01	4.8103E+00	1.0589E+02	2.1269E+01	2.3820E+01	1.6059E+00
6.400	2.4387E+01	5.0528E+00	1.0999E+02	2.2293E+01	2.4625E+01	1.6726E+00
6.700	2.5338E+01	5.2875E+00	1.1400E+02	2.3284E+01	2.5411E+01	1.7373E+00
7.000	2.6269E+01	5.5143E+00	1.1793E+02	2.4242E+01	2.6179E+01	1.8000E+00

```
   7.300 2.7184E+01 5.7336E+00 1.2180E+02 2.5168E+01 2.6932E+01 1.8607E+00
   7.600 2.8084E+01 5.9454E+00 1.2560E+02 2.6063E+01 2.7670E+01 1.9197E+00
   7.900 2.8969E+01 6.1501E+00 1.2933E+02 2.6927E+01 2.8394E+01 1.9769E+00
   8.000 2.9261E+01 6.2167E+00 1.3057E+02 2.7208E+01 2.8633E+01 1.9956E+00
   8.300 3.0118E+01 6.4118E+00 1.3210E+02 2.7557E+01 2.9258E+01 2.0441E+00
   8.600 3.0963E+01 6.6002E+00 1.3361E+02 2.7895E+01 2.9751E+01 2.0818E+00
   8.900 3.1798E+01 6.7823E+00 1.3511E+02 2.8220E+01 3.0161E+01 2.1128E+00
   9.200 3.2622E+01 6.9583E+00 1.3658E+02 2.8535E+01 3.0519E+01 2.1396E+00
   9.500 3.3437E+01 7.1285E+00 1.3804E+02 2.8840E+01 3.0845E+01 2.1636E+00
   9.800 3.4243E+01 7.2932E+00 1.3948E+02 2.9134E+01 3.1149E+01 2.1858E+00
  10.100 3.5041E+01 7.4525E+00 1.4091E+02 2.9419E+01 3.1440E+01 2.2066E+00
  10.400 3.5832E+01 7.6068E+00 1.4232E+02 2.9695E+01 3.1720E+01 2.2266E+00
  24.000 6.7936E+01 1.1954E+01 1.9975E+02 3.7472E+01 4.2577E+01 2.8583E+00
  48.000 9.1108E+01 1.3973E+01 2.1618E+02 3.8904E+01 4.5885E+01 3.0198E+00
  72.000 1.0954E+02 1.5458E+01 2.2925E+02 3.9957E+01 4.8345E+01 3.1400E+00
  96.000 1.2458E+02 1.6707E+01 2.3993E+02 4.0842E+01 5.0354E+01 3.2426E+00
 240.000 1.8609E+02 2.1951E+01 2.6384E+02 4.2881E+01 5.4863E+01 3.4939E+00
 720.000 2.5397E+02 2.9064E+01 2.9024E+02 4.5647E+01 5.9831E+01 3.9145E+00

#################################################################
                         Worst Two-Hour Doses
#################################################################

Exclusion Area Boundary
   Time   Whole Body    Thyroid        TEDE
   (hr)     (rem)        (rem)         (rem)
    1.6   1.4989E+00   9.7057E+00   1.9812E+00
```

Attachment 12.5c - RADTRAD Output File "DRE3MS395_GNF3_Spray.o0" (GNF3 Fuel)

```
 ######################################################################
    RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:03:12
 ######################################################################

 ######################################################################
                      File information
 ######################################################################

 Plant file           = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3_spray.psf
 Inventory file       = C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Release file         = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp




     #####    ####   #####    #  #     #  #####   #    #  #####
     #    #  #       #        #  ##    #  #    #  #    #    #
     #    #  #       #        #  # #   #  #    #  #    #    #
     #####    ####   ####     #  #  #  #  #####   #    #    #
     #            #  #        #  #   # #  #       #    #    #
     #            #  #        #  #    ##  #       #    #    #
     #        ####   #        #  #     #  #        ####     #


 Radtrad 3.03 4/15/2001
 Dresden 2 MSIV Leakage Control Room Dose  - Core Burnup = 39 MWD/MTU, MSIV Leakage = 250 scfh, 40%
Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for
<0.6667 hrs and 395 cfm >0.6667 hrs
 Nuclide Inventory File:
 C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DQLOCA_GNF3.nif
 Plant Power Level:
  3.0161E+03
 Compartments:
   9
 Compartment 1:
 Sprayed Drywell
   3
  9.5000E+04
   1
   0
   0
   0
   0
 Compartment 2:
 MSIV Failed Control Vol 1
   3
  2.0024E+02
   0
   0
   0
   0
   0
 Compartment 3:
 Intact Control Volume 2
   3
  1.5293E+02
   0
   0
   0
   0
   0
```

```
Compartment 4:
Intact Control Volume 3
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 5:
Intact Control Volume 4
  3
 1.6375E+02
  0
  0
  0
  0
  0
Compartment 6:
Intact Control Volume 5
  3
 4.9110E+01
  0
  0
  0
  0
  0
Compartment 7:
Environment
  2
 0.0000E+00
  0
  0
  0
  0
  0
Compartment 8:
Control Room
  1
 8.1000E+04
  0
  0
  0
  0
  0
Compartment 9:
Unsprayed Drywell
  3
 6.3000E+04
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
Drywell to MSIV Failed Control Vol 1
  1
  2
  2
Pathway 2:
MSIV Failed Control Vol 1 to Environment
  2
  7
  2
Pathway 3:
```

```
Drywell to Intact Control Volume 2
  1
  3
  2
Pathway 4:
Intact Control Volume 2 to Intact Control Volume 3
  3
  4
  2
Pathway 5:
Intact Control Volume 3 to Environment
  4
  7
  2
Pathway 6:
Drywell to Intact Control Volume 4
  1
  5
  2
Pathway 7:
Intact Control Volume 4 to Intact Control Volume 5
  5
  6
  2
Pathway 8:
Intact Control Volume 5 to Environment
  6
  7
  2
Pathway 9:
Filtered Intake to Control Room
  7
  8
  2
Pathway 10:
Unfiltered Inleakage to Control Room
  7
  8
  2
Pathway 11:
Control Room Exhaust to Environment
  8
  7
  2
Pathway 12:
Sprayed Drywell to Unsprayed Drywell
  1
  9
  2
Pathway 13:
Unsprayed Drywell to Sprayed Drywell
  9
  1
  2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
  1
  1   1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
  0.0000E+00
  1
  9.5000E-01   4.8500E-02   1.5000E-03   1.0000E+00
```

```
Overlying Pool:
  0
  0.0000E+00
  0
  0
  0
  0
Compartments:
  9
Compartment 1:
  1
  1
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
 10
  0.0000E+00   0.0000E+00
  1.6670E-01   1.5000E+01
  1.0000E+00   1.5000E+01
  2.0000E+00   1.5000E+01
  2.2000E+00   1.5000E+01
  2.2500E+00   1.5000E+01
  2.3000E+00   1.5000E+01
  2.3500E+00   1.5000E+01
  4.0000E+00   1.5000E+01
  7.2000E+02   0.0000E+00
  1
  0.0000E+00
  0
  0
  0
  0
  0
Compartment 2:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 3:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 4:
  0
```

```
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 5:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 6:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 7:
  1
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 8:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Compartment 9:
  0
  1
  0
  0
  0
  0
  0
  0
  0
Pathways:
 13
Pathway 1:
  0
  0
  0
  0
  0
  1
```

```
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 2:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.7820E+01   6.8400E+00   0.0000E+00
  2.0000E+00   9.7900E-01   8.7820E+01   6.8400E+00   0.0000E+00
  8.0000E+00   9.7900E-01   8.7820E+01   9.1100E+00   0.0000E+00
  2.4000E+01   4.8900E-01   8.7820E+01   1.5690E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.7820E+01   3.1540E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.7820E+01   5.2530E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.7820E+01   7.2070E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.7820E+01   9.7260E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 3:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 4:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   7.6750E+01   4.1600E+00   0.0000E+00
  2.0000E+00   9.7900E-01   7.6750E+01   4.1600E+00   0.0000E+00
  8.0000E+00   9.7900E-01   7.6750E+01   5.5700E+00   0.0000E+00
```

```
  2.4000E+01   4.8900E-01   7.6750E+01   9.7400E+00   0.0000E+00
  4.8000E+01   4.8900E-01   7.6750E+01   2.0390E+01   0.0000E+00
  7.2000E+01   4.8900E-01   7.6750E+01   3.6240E+01   0.0000E+00
  9.6000E+01   4.8900E-01   7.6750E+01   5.4010E+01   0.0000E+00
  2.4000E+02   4.8900E-01   7.6750E+01   9.3310E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 5:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   1.6670E+00   8.0220E+01   1.4970E+01   0.0000E+00
  2.0000E+00   9.7900E-01   8.0220E+01   1.4970E+01   0.0000E+00
  8.0000E+00   9.7900E-01   8.0220E+01   1.9630E+01   0.0000E+00
  2.4000E+01   4.8900E-01   8.0220E+01   3.2260E+01   0.0000E+00
  4.8000E+01   4.8900E-01   8.0220E+01   5.7570E+01   0.0000E+00
  7.2000E+01   4.8900E-01   8.0220E+01   8.0730E+01   0.0000E+00
  9.6000E+01   4.8900E-01   8.0220E+01   9.2810E+01   0.0000E+00
  2.4000E+02   4.8900E-01   8.0220E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 6:
  0
  0
  0
  0
  0
  1
  5
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.9700E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   8.7000E-02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 7:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9010E+01   3.8900E+00   0.0000E+00
  2.0000E+00   4.8900E-01   8.9010E+01   3.8900E+00   0.0000E+00
  8.0000E+00   4.8900E-01   8.9010E+01   5.2100E+00   0.0000E+00
```

```
  2.4000E+01   2.4500E-01   8.9010E+01   9.1200E+00   0.0000E+00
  4.8000E+01   2.4500E-01   8.9010E+01   1.9170E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9010E+01   3.4310E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9010E+01   5.1600E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9010E+01   9.2280E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 8:
  0
  0
  0
  0
  0
  1
 10
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   8.3300E-01   8.9030E+01   1.4970E+01   0.0000E+00
  2.0000E+00   4.8900E-01   8.9030E+01   1.4970E+01   0.0000E+00
  8.0000E+00   4.8900E-01   8.9030E+01   1.9630E+01   0.0000E+00
  2.4000E+01   2.4500E-01   8.9030E+01   3.2260E+01   0.0000E+00
  4.8000E+01   2.4500E-01   8.9030E+01   5.7570E+01   0.0000E+00
  7.2000E+01   2.4500E-01   8.9030E+01   8.0730E+01   0.0000E+00
  9.6000E+01   2.4500E-01   8.9030E+01   9.2810E+01   0.0000E+00
  2.4000E+02   2.4500E-01   8.9030E+01   9.7840E+01   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 9:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   2.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  8.0000E+00   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  2.4000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  9.6000E+01   1.8000E+03   9.9000E+01   9.9000E+01   9.9000E+01
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 10:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
```

```
  3.3300E-02   4.0000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   3.9500E+02   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 11:
  0
  0
  0
  0
  0
  1
  8
  0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  3.3300E-02   6.2000E+03   0.0000E+00   0.0000E+00   0.0000E+00
  6.6670E-01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  8.0000E+00   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  2.4000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  9.6000E+01   2.1950E+03   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 12:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
Pathway 13:
  0
  0
  0
  0
  0
  1
  2
  0.0000E+00   2.1000E-06   0.0000E+00   0.0000E+00   0.0000E+00
  7.2000E+02   0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
  0
  0
  0
  0
  0
  0
```

```
Dose Locations:
  3
Location 1:
Exclusion Area Boundary
  7
  1
  2
  0.0000E+00   2.5100E-04
  7.2000E+02   0.0000E+00
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  0
Location 2:
Low Population Zone
  7
  1
  6
  0.0000E+00   2.6300E-05
  2.0000E+00   1.0900E-05
  8.0000E+00   7.0200E-06
  2.4000E+01   2.7000E-06
  9.6000E+01   6.8600E-07
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   3.5000E-04
  8.0000E+00   1.8000E-04
  2.4000E+01   2.3000E-04
  7.2000E+02   0.0000E+00
  0
Location 3:
Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   1.3000E-03
  2.0000E+00   1.0600E-03
  8.0000E+00   4.4900E-04
  2.4000E+01   2.9600E-04
  9.6000E+01   2.4400E-04
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
C:\Users\jhead\Desktop\Dresden_LOCA\GNF3\DRE3MS395_GNF3_spray.o0
  1
```

```
  1
  1
  0
  0
End of Scenario File

#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:03:12
#######################################################################

#######################################################################
                     Plant Description
#######################################################################

Number of Nuclides =  60

Inventory Power =   1.0000E+00 MWth
Plant Power Level =   3.0161E+03 MWth

Number of compartments    =   9

Compartment information

Compartment number  1  (Source term fraction =   1.0000E+00
)
Name: Sprayed Drywell
Compartment volume =   9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:
     Spray(s)
Pathways into and out of compartment  1
   Inlet Pathway Number  13: Unsprayed Drywell to Sprayed Drywell
   Exit Pathway Number    1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    3: Drywell to Intact Control Volume 2
   Exit Pathway Number    6: Drywell to Intact Control Volume 4
   Exit Pathway Number   12: Sprayed Drywell to Unsprayed Drywell

Compartment number  2
Name: MSIV Failed Control Vol 1
Compartment volume =   2.0024E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  2
   Inlet Pathway Number   1: Drywell to MSIV Failed Control Vol 1
   Exit Pathway Number    2: MSIV Failed Control Vol 1 to Environment

Compartment number  3
Name: Intact Control Volume 2
Compartment volume =   1.5293E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  3
   Inlet Pathway Number   3: Drywell to Intact Control Volume 2
   Exit Pathway Number    4: Intact Control Volume 2 to Intact Control Volume 3

Compartment number  4
Name: Intact Control Volume 3
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  4
   Inlet Pathway Number   4: Intact Control Volume 2 to Intact Control Volume 3
   Exit Pathway Number    5: Intact Control Volume 3 to Environment

Compartment number  5
Name: Intact Control Volume 4
Compartment volume =   1.6375E+02 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  5
   Inlet Pathway Number   6: Drywell to Intact Control Volume 4
```

```
   Exit Pathway Number    7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number  6
Name: Intact Control Volume 5
Compartment volume =   4.9110E+01 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  6
   Inlet Pathway Number   7: Intact Control Volume 4 to Intact Control Volume 5
   Exit Pathway Number    8: Intact Control Volume 5 to Environment

Compartment number  7
Name: Environment
Compartment type is Environment
Pathways into and out of compartment  7
   Inlet Pathway Number   2: MSIV Failed Control Vol 1 to Environment
   Inlet Pathway Number   5: Intact Control Volume 3 to Environment
   Inlet Pathway Number   8: Intact Control Volume 5 to Environment
   Inlet Pathway Number  11: Control Room Exhaust to Environment
   Exit Pathway Number    9: Filtered Intake to Control Room
   Exit Pathway Number   10: Unfiltered Inleakage to Control Room

Compartment number  8
Name: Control Room
Compartment volume =   8.1000E+04 (Cubic feet)
Compartment type is Control Room
Pathways into and out of compartment  8
   Inlet Pathway Number   9: Filtered Intake to Control Room
   Inlet Pathway Number  10: Unfiltered Inleakage to Control Room
   Exit Pathway Number   11: Control Room Exhaust to Environment

Compartment number  9
Name: Unsprayed Drywell
Compartment volume =   6.3000E+04 (Cubic feet)
Compartment type is Normal
Pathways into and out of compartment  9
   Inlet Pathway Number  12: Sprayed Drywell to Unsprayed Drywell
   Exit Pathway Number   13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways =  13
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:03:12
#######################################################################

#######################################################################
                     Scenario Description
#######################################################################

Radioactive Decay is enabled
Calculation of Daughters is enabled

Release Fractions and Timings
                 GAP       EARLY IN-VESSEL  LATE RELEASE    RELEASE MASS
              0.500000 hr    1.5000 hrs      0.0000 hrs          (gm)
NOBLES        5.0000E-02     9.5000E-01      0.0000E+00        5.298E+03
IODINE        5.0000E-02     2.5000E-01      0.0000E+00        2.635E+02
CESIUM        5.0000E-02     2.0000E-01      0.0000E+00        5.859E+04
TELLURIUM     0.0000E+00     5.0000E-02      0.0000E+00        3.648E+01
STRONTIUM     0.0000E+00     2.0000E-02      0.0000E+00        2.136E+03
BARIUM        0.0000E+00     2.0000E-02      0.0000E+00        4.198E+01
RUTHENIUM     0.0000E+00     2.5000E-03      0.0000E+00        5.916E+01
CERIUM        0.0000E+00     5.0000E-04      0.0000E+00        6.662E+02
LANTHANUM     0.0000E+00     2.0000E-04      0.0000E+00        7.637E+00

Inventory Power =      3016. MWt

Nuclide  Group  Specific     half     Whole Body   Inhaled     Inhaled
 Name          Inventory     life        DCF       Thyroid    Effective
                (Ci/MWt)     (s)     (Sv-m3/Bq-s)  (Sv/Bq)     (Sv/Bq)
 Co-58     7   1.529E+02  6.117E+06   4.760E-14   8.720E-10   2.940E-09
 Co-60     7   1.830E+02  1.663E+08   1.260E-13   1.620E-08   5.910E-08
 Kr-85     1   5.706E+02  3.383E+08   1.190E-16   0.000E+00   0.000E+00
 Kr-85m    1   9.157E+03  1.613E+04   7.480E-15   0.000E+00   0.000E+00
 Kr-87     1   1.852E+04  4.578E+03   4.120E-14   0.000E+00   0.000E+00
 Kr-88     1   2.508E+04  1.022E+04   1.020E-13   0.000E+00   0.000E+00
 Rb-86     3   6.753E+01  1.612E+06   4.810E-15   1.330E-09   1.790E-09
 Sr-89     5   3.435E+04  4.363E+06   7.730E-17   7.960E-12   1.120E-08
 Sr-90     5   4.666E+03  9.190E+08   7.530E-18   2.690E-10   3.510E-07
 Sr-91     5   4.257E+04  3.420E+04   4.924E-14   9.930E-12   4.547E-10
 Sr-92     5   4.411E+04  9.756E+03   6.790E-14   3.920E-12   2.180E-10
 Y-90      9   4.800E+03  2.304E+05   1.900E-16   5.170E-13   2.280E-09
 Y-91      9   4.323E+04  5.055E+06   2.600E-16   8.500E-12   1.320E-08
 Y-92      9   4.463E+04  1.274E+04   1.300E-14   1.050E-12   2.110E-10
 Y-93      9   4.828E+04  3.636E+04   4.800E-15   9.260E-13   5.820E-10
 Zr-95     9   5.132E+04  5.528E+06   3.600E-14   1.440E-09   6.390E-09
 Zr-97     9   4.931E+04  6.084E+04   4.432E-14   2.315E-11   1.171E-09
 Nb-95     9   5.119E+04  3.037E+06   3.740E-14   3.580E-10   1.570E-09
 Mo-99     7   5.165E+04  2.376E+05   7.280E-15   1.520E-11   1.070E-09
 Tc-99m    7   4.569E+04  2.167E+04   5.890E-15   5.010E-11   8.800E-12
 Ru-103    7   4.536E+04  3.394E+06   2.251E-14   2.570E-10   2.421E-09
 Ru-105    7   3.280E+04  1.598E+04   3.810E-14   4.150E-12   1.230E-10
 Ru-106    7   2.046E+04  3.181E+07   1.040E-14   1.720E-09   1.290E-07
 Rh-105    7   3.080E+04  1.273E+05   3.720E-15   2.880E-12   2.580E-10
 Sb-127    4   2.613E+03  3.326E+05   3.330E-14   6.150E-11   1.630E-09
 Sb-129    4   8.040E+03  1.555E+04   7.140E-14   9.720E-12   1.740E-10
 Te-127    4   2.581E+03  3.366E+04   2.420E-16   1.840E-12   8.600E-11
 Te-127m   4   4.427E+02  9.418E+06   1.470E-16   9.660E-11   5.810E-09
 Te-129    4   7.537E+03  4.176E+03   2.750E-15   5.090E-13   2.090E-11
 Te-129m   4   1.449E+03  2.903E+06   3.337E-15   1.563E-10   6.484E-09
 Te-131m   4   5.437E+03  1.080E+05   7.463E-14   3.669E-08   1.758E-09
 Te-132    4   3.870E+04  2.815E+05   1.030E-14   6.280E-08   2.550E-09
 I-131     2   2.723E+04  6.947E+05   1.820E-14   2.920E-07   8.890E-09
 I-132     2   3.976E+04  8.280E+03   1.120E-13   1.740E-09   1.030E-10
 I-133     2   5.668E+04  7.488E+04   2.940E-14   4.860E-08   1.580E-09
 I-134     2   6.497E+04  3.156E+03   1.300E-13   2.880E-10   3.550E-11
 I-135     2   5.349E+04  2.380E+04   8.294E-14   8.460E-09   3.320E-10
```

Xe-133	1	5.393E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.675E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.741E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	2.264E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	6.235E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	5.225E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	5.072E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.106E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.773E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.685E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.776E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.676E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.835E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.607E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.865E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.572E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.699E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.479E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.748E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.884E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.063E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.599E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.817E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions
Aerosol = 9.5000E-01

```
     Elemental   =   4.8500E-02
     Organic     =   1.5000E-03

COMPARTMENT DATA

Compartment number   1: Sprayed Drywell

     Sprays:  Aerosal Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

     Sprays:  Elemental Removal Data
      Time (hr)          Removal Coef. (hr^-1)
       0.0000E+00          0.0000E+00
       1.6670E-01          1.5000E+01
       1.0000E+00          1.5000E+01
       2.0000E+00          1.5000E+01
       2.2000E+00          1.5000E+01
       2.2500E+00          1.5000E+01
       2.3000E+00          1.5000E+01
       2.3500E+00          1.5000E+01
       4.0000E+00          1.5000E+01
       7.2000E+02          0.0000E+00

Compartment number   2: MSIV Failed Control Vol 1

Compartment number   3: Intact Control Volume 2

Compartment number   4: Intact Control Volume 3

Compartment number   5: Intact Control Volume 4

Compartment number   6: Intact Control Volume 5

Compartment number   7: Environment

Compartment number   8: Control Room

Compartment number   9: Unsprayed Drywell

PATHWAY DATA

Pathway number  1: Drywell to MSIV Failed Control Vol 1

     Pathway Filter: Removal Data

       Time (hr)      Flow Rate          Filter Efficiencies (%)
                       (cfm)        Aerosol     Elemental    Organic
       0.0000E+00    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00
       3.3300E-02    5.9500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.0000E+00    3.4900E-01   0.0000E+00   0.0000E+00   0.0000E+00
       2.4000E+01    1.7500E-01   0.0000E+00   0.0000E+00   0.0000E+00
       7.2000E+02    0.0000E+00   0.0000E+00   0.0000E+00   0.0000E+00

Pathway number  2: MSIV Failed Control Vol 1 to Environment

     Pathway Filter: Removal Data
```

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	3.8900E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	3.8900E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	5.2100E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	9.1200E+00	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	1.9170E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	3.4310E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.1600E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.2280E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	3.9500E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.1950E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%) Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.5100E-04
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	2.6300E-05
2.0000E+00	1.0900E-05
8.0000E+00	7.0200E-06
2.4000E+01	2.7000E-06
9.6000E+01	6.8600E-07
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr) X/Q (s * m^-3)

```
       0.0000E+00          1.3000E-03
       2.0000E+00          1.0600E-03
       8.0000E+00          4.4900E-04
       2.4000E+01          2.9600E-04
       9.6000E+01          2.4400E-04
       7.2000E+02          0.0000E+00

     Location Breathing Rate Data
      Time (hr)         Breathing Rate (m^3 * sec^-1)
       0.0000E+00                 3.5000E-04
       7.2000E+02                 0.0000E+00

     Location Occupancy Factor Data
      Time (hr)         Occupancy Factor
       0.0000E+00            1.0000E+00
       2.4000E+01            6.0000E-01
       9.6000E+01            4.0000E-01
       7.2000E+02            0.0000E+00

USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS
     Time            Time step
      0.0000E+00       1.0000E-01
      1.0000E+00       1.0000E-02
      2.0000E+00       5.0000E-01
      8.0000E+00       1.0000E+00
      2.4000E+01       2.0000E+00
      9.6000E+01       5.0000E+00
      7.2000E+02       0.0000E+00
```

```
#######################################################################
   RADTRAD Version 3.03 (Spring 2001) run on  8/04/2019  at 20:03:12
#######################################################################




     ####   #    #  #####  #####   #    #  #####
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #    #  #    #    #
    #    #  #    #    #    #####   #    #    #
    #    #  #    #    #    #       #    #    #
    #    #  #    #    #    #       #    #    #
     ####    ####     #    #        ####     #


#######################################################################
            Dose, Detailed model and Detailed Inventory Output
#######################################################################

Exclusion Area Boundary Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Low Population Zone Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Control Room Doses:

Time (h) =   0.0333    Whole Body   Thyroid       TEDE
Delta dose (rem)        0.0000E+00  0.0000E+00  0.0000E+00
Accumulated dose (rem)  0.0000E+00  0.0000E+00  0.0000E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.0333       Ci           kg         Atoms      Decay

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.0333    Atmosphere     Sump
Noble gases (atoms)    1.1732E+23  0.0000E+00
Elemental I (atoms)    6.4867E+20  0.0000E+00
Organic I (atoms)      2.0062E+19  0.0000E+00
Aerosols (kg)          7.8313E-01  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4371E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.8404E-04
Total I (Ci)                                   2.4085E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
```

```
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.5909E+12
Elemental I (atoms)    0.0000E+00  1.4336E+10
Organic I (atoms)      0.0000E+00  4.4338E+08
Aerosols (kg)          0.0000E+00  1.7294E-11

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7517E+01
Elemental I (atoms)    0.0000E+00  3.1825E-01
Organic I (atoms)      0.0000E+00  9.8429E-03
Aerosols (kg)          0.0000E+00  3.8393E-22

Environment Integral Nuclide Release:

Time (h) =   0.0333       Ci           kg         Atoms         Bq

Environment Transport Group Inventory:

                         Total      Release
Time (h) =   0.0333     Release     Rate/s
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00
Dose Effective (Ci) I-131 (Thyroid)            0.0000E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      0.0000E+00
Total I  (Ci)                                  0.0000E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Intact Control Volume 5 to Environment Transport Group Inventory:
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```
                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.0333     Filtered   Transported
Noble gases (atoms)    0.0000E+00  0.0000E+00
Elemental I (atoms)    0.0000E+00  0.0000E+00
Organic I (atoms)      0.0000E+00  0.0000E+00
Aerosols (kg)          0.0000E+00  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6564E-04  2.4225E-02  1.2696E-03
Accumulated dose (rem)  2.6564E-04  2.4225E-02  1.2696E-03

Low Population Zone Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7834E-05  2.5384E-03  1.3303E-04
Accumulated dose (rem)  2.7834E-05  2.5384E-03  1.3303E-04

Control Room Doses:

Time (h) =   0.1667    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.5468E-06  2.2470E-02  9.4112E-04
Accumulated dose (rem)  9.5468E-06  2.2470E-02  9.4112E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.1667       Ci           kg         Atoms      Decay
Kr-85                  2.8687E+04  7.3118E-02  5.1803E+23  4.3235E+17
Kr-85m                 4.4864E+05  5.4516E-05  3.8624E+20  6.8287E+18
Kr-87                  8.5021E+05  3.0016E-05  2.0777E+20  1.3269E+19
Kr-88                  1.2106E+06  9.6546E-05  6.6070E+20  1.8532E+19
Rb-86                  3.3942E+03  4.1714E-05  2.9210E+20  5.1160E+16
I-131                  1.3682E+06  1.1036E-02  5.0734E+22  2.0625E+19
I-132                  1.9314E+06  1.8712E-04  8.5366E+20  2.9551E+19
I-133                  2.8338E+06  2.5015E-03  1.1327E+22  4.2800E+19
I-134                  2.8630E+06  1.0732E-04  4.8232E+20  4.5398E+19
I-135                  2.6426E+06  7.5248E-04  3.3567E+21  4.0094E+19
Xe-133                 2.7114E+06  1.4485E-02  6.5588E+22  4.0857E+19
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Xe-135                  1.3565E+06  5.3120E-04  2.3696E+21  2.0295E+19
Cs-134                  3.8917E+05  3.0079E-01  1.3518E+24  5.8654E+18
Cs-136                  1.1378E+05  1.5524E-03  6.8743E+21  1.7151E+18
Cs-137                  3.1346E+05  3.6038E+00  1.5841E+25  4.7243E+18

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.1667    Atmosphere     Sump
Noble gases (atoms)    5.8724E+23  0.0000E+00
Elemental I (atoms)    3.2375E+21  0.0000E+00
Organic I (atoms)      1.0013E+20  0.0000E+00
Aerosols (kg)          3.9200E+00  0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)         7.1772E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   9.1595E-04
Total I (Ci)                                   1.1639E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7661E+19
Elemental I (atoms)    0.0000E+00  9.7557E+16
Organic I (atoms)      0.0000E+00  3.0172E+15
Aerosols (kg)          0.0000E+00  1.1789E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7661E+19
Elemental I (atoms)    0.0000E+00  9.7557E+16
Organic I (atoms)      0.0000E+00  3.0172E+15
Aerosols (kg)          0.0000E+00  1.1789E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  8.8155E+18
Elemental I (atoms)    0.0000E+00  4.8697E+16
Organic I (atoms)      0.0000E+00  1.5061E+15
Aerosols (kg)          0.0000E+00  5.8845E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.4923E+13
Elemental I (atoms)    0.0000E+00  3.5866E+11
Organic I (atoms)      0.0000E+00  1.1092E+10
Aerosols (kg)          0.0000E+00  4.3337E-10

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.2152E+03
Elemental I (atoms)    0.0000E+00  3.9847E+01
Organic I (atoms)      0.0000E+00  1.2324E+00
Aerosols (kg)          0.0000E+00  4.8162E-20

Environment Integral Nuclide Release:

Time (h) =   0.1667       Ci           kg         Atoms         Bq
Kr-85                  2.4285E-02  6.1898E-08  4.3854E+17  8.9854E+08
Kr-85m                 3.8048E-01  4.6233E-11  3.2756E+14  1.4078E+10
Kr-87                  7.2434E-01  2.5572E-11  1.7701E+14  2.6800E+10
Kr-88                  1.0277E+00  8.1962E-11  5.6090E+14  3.8027E+10
```

Rb-86	3.2786E-04	4.0294E-12	2.8216E+13	1.2131E+07
I-131	1.7899E-01	1.4438E-09	6.6372E+15	6.6227E+09
I-132	2.5136E-01	2.4352E-11	1.1110E+14	9.3004E+09
I-133	3.7086E-01	3.2738E-10	1.4824E+15	1.3722E+10
I-134	3.7811E-01	1.4174E-11	6.3698E+13	1.3990E+10
I-135	3.4613E-01	9.8561E-11	4.3966E+14	1.2807E+10
Xe-133	2.2946E+00	1.2258E-08	5.5505E+16	8.4899E+10
Xe-135	1.1393E+00	4.4613E-10	1.9901E+15	4.2154E+10
Cs-134	3.7592E-02	2.9055E-08	1.3058E+17	1.3909E+09
Cs-136	1.0991E-02	1.4996E-10	6.6403E+14	4.0666E+08
Cs-137	3.0279E-02	3.4810E-07	1.5302E+18	1.1203E+09

Environment Transport Group Inventory:

Time (h) = 0.1667	Total Release	Release Rate/s
Noble gases (atoms)	4.9710E+17	8.2834E+14
Elemental I (atoms)	2.5227E+15	4.2037E+12
Organic I (atoms)	8.4777E+13	1.4127E+11
Aerosols (kg)	3.7865E-07	6.3096E-10

Dose Effective (Ci) I-131 (Thyroid)	2.5262E-01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.2243E-01
Total I (Ci)	1.5255E+00

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4883E+17
Elemental I (atoms)	1.6954E+14	2.3091E+15
Organic I (atoms)	0.0000E+00	7.6658E+13
Aerosols (kg)	2.6311E-06	3.6491E-07

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3692E+16
Elemental I (atoms)	3.4614E+13	1.9661E+14
Organic I (atoms)	0.0000E+00	7.4616E+12
Aerosols (kg)	5.4397E-08	1.3413E-08

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.3035E+15
Elemental I (atoms)	4.2134E+12	2.3932E+13
Organic I (atoms)	0.0000E+00	9.0571E+11
Aerosols (kg)	3.4639E-09	4.2681E-10

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7103E+14
Elemental I (atoms)	0.0000E+00	3.4104E+12
Organic I (atoms)	0.0000E+00	1.1461E+11
Aerosols (kg)	0.0000E+00	5.1109E-10

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.1667	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2201E+15
Elemental I (atoms)	0.0000E+00	6.2008E+12
Organic I (atoms)	0.0000E+00	2.0838E+11

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Aerosols (kg)          0.0000E+00  9.2926E-10

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   0.1667     Filtered   Transported
Noble gases (atoms)    2.9103E+14  0.0000E+00
Elemental I (atoms)    1.4815E+12  0.0000E+00
Organic I (atoms)      4.9701E+10  0.0000E+00
Aerosols (kg)          2.2380E-10  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.1721E-03  3.7424E-01  2.1514E-02
Accumulated dose (rem)  6.4377E-03  3.9846E-01  2.2783E-02

Low Population Zone Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.4671E-04  3.9213E-02  2.2542E-03
Accumulated dose (rem)  6.7455E-04  4.1751E-02  2.3872E-03

Control Room Doses:

Time (h) =   0.5000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.1191E-04  9.1125E-01  3.7971E-02
Accumulated dose (rem)  5.2146E-04  9.3372E-01  3.8912E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =   0.5000       Ci           kg         Atoms      Decay
Kr-85                  8.6030E+04  2.1928E-01  1.5535E+24  3.3353E+18
Kr-85m                 1.2778E+06  1.5527E-04  1.1001E+21  5.0916E+19
Kr-87                  2.1262E+06  7.5061E-05  5.1957E+20  9.0927E+19
Kr-88                  3.3469E+06  2.6691E-04  1.8266E+21  1.3551E+20
Rb-86                  1.3704E+03  1.6843E-05  1.1794E+20  1.2156E+17
I-131                  5.5746E+05  4.4966E-03  2.0671E+22  4.9164E+19
I-132                  7.8210E+05  7.5769E-05  3.4567E+20  7.0094E+19
I-133                  1.1430E+06  1.0090E-03  4.5687E+21  1.0164E+20
I-134                  8.9719E+05  3.3632E-05  1.5115E+20  9.8566E+19
I-135                  1.0408E+06  2.9636E-04  1.3220E+21  9.4375E+19
Xe-133                 8.1222E+06  4.3392E-02  1.9648E+23  3.1506E+20
Xe-135                 4.0323E+06  1.5790E-03  7.0436E+21  1.5688E+20
Cs-134                 1.5721E+05  1.2151E-01  5.4608E+23  1.3940E+19
Cs-136                 4.5930E+04  6.2668E-04  2.7750E+21  4.0749E+18
Cs-137                 1.2663E+05  1.4558E+00  6.3993E+24  1.1228E+19

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.5000    Atmosphere     Sump
Noble gases (atoms)    1.7605E+24  0.0000E+00
Elemental I (atoms)    1.2998E+21  8.3264E+21
Organic I (atoms)      2.9823E+20  0.0000E+00
Aerosols (kg)          1.5835E+00  1.0099E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.9122E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6916E-04
Total I (Ci)                                   4.4206E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.5000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6471E+20
Elemental I (atoms)    0.0000E+00  3.0616E+17
Organic I (atoms)      0.0000E+00  2.8021E+16
Aerosols (kg)          0.0000E+00  3.7090E-04
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Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6471E+20
Elemental I (atoms)	0.0000E+00	3.0616E+17
Organic I (atoms)	0.0000E+00	2.8021E+16
Aerosols (kg)	0.0000E+00	3.7090E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.2217E+19
Elemental I (atoms)	0.0000E+00	1.5282E+17
Organic I (atoms)	0.0000E+00	1.3987E+16
Aerosols (kg)	0.0000E+00	1.8514E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8392E+14
Elemental I (atoms)	0.0000E+00	1.0949E+12
Organic I (atoms)	0.0000E+00	9.9343E+10
Aerosols (kg)	0.0000E+00	1.3263E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9465E+05
Elemental I (atoms)	0.0000E+00	5.6009E+02
Organic I (atoms)	0.0000E+00	3.3082E+01
Aerosols (kg)	0.0000E+00	6.8000E-19

Environment Integral Nuclide Release:

Time (h) = 0.5000	Ci	kg	Atoms	Bq
Kr-85	8.1767E-01	2.0841E-06	1.4766E+19	3.0254E+10
Kr-85m	1.2290E+01	1.4934E-09	1.0580E+16	4.5472E+11
Kr-87	2.1089E+01	7.4451E-10	5.1535E+15	7.8028E+11
Kr-88	3.2413E+01	2.5850E-09	1.7690E+16	1.1993E+12
Rb-86	5.1790E-03	6.3650E-11	4.4571E+14	1.9162E+08
I-131	2.9533E+00	2.3822E-08	1.0951E+17	1.0927E+11
I-132	3.9348E+00	3.8120E-10	1.7391E+15	1.4559E+11
I-133	6.0759E+00	5.3636E-09	2.4286E+16	2.2481E+11
I-134	5.1943E+00	1.9471E-10	8.7507E+14	1.9219E+11
I-135	5.5757E+00	1.5877E-09	7.0824E+15	2.0630E+11
Xe-133	7.7210E+01	4.1249E-07	1.8677E+18	2.8568E+12
Xe-135	3.8326E+01	1.5008E-08	6.6947E+16	1.4180E+12
Cs-134	5.9402E-01	4.5912E-07	2.0634E+18	2.1979E+10
Cs-136	1.7359E-01	2.3685E-09	1.0488E+16	6.4227E+09
Cs-137	4.7846E-01	5.5007E-06	2.4180E+19	1.7703E+10

Environment Transport Group Inventory:

Time (h) = 0.5000	Total Release	Release Rate/s
Noble gases (atoms)	1.6734E+19	9.2965E+15
Elemental I (atoms)	4.4330E+16	2.4628E+13
Organic I (atoms)	2.8381E+15	1.5767E+12
Aerosols (kg)	5.9833E-06	3.3241E-09

Dose Effective (Ci) I-131 (Thyroid)	4.1547E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	5.2717E+00
Total I (Ci)	2.3734E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2798E+19
Elemental I (atoms)	2.4501E+15	3.3370E+16
Organic I (atoms)	0.0000E+00	2.1751E+15
Aerosols (kg)	3.8190E-05	5.2967E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4814E+18
Elemental I (atoms)	1.7208E+15	9.7744E+15
Organic I (atoms)	0.0000E+00	5.9142E+14
Aerosols (kg)	2.7182E-06	6.7024E-07

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5975E+17
Elemental I (atoms)	2.3246E+14	1.3204E+15
Organic I (atoms)	0.0000E+00	7.8100E+13
Aerosols (kg)	1.9210E-07	2.3670E-08

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2590E+16
Elemental I (atoms)	0.0000E+00	5.9962E+13
Organic I (atoms)	0.0000E+00	3.8390E+12
Aerosols (kg)	0.0000E+00	8.0762E-09

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1072E+16
Elemental I (atoms)	0.0000E+00	1.0902E+14
Organic I (atoms)	0.0000E+00	6.9799E+12
Aerosols (kg)	0.0000E+00	1.4684E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 0.5000	Pathway Filtered	Transported
Noble gases (atoms)	2.3862E+16	0.0000E+00
Elemental I (atoms)	7.4792E+13	0.0000E+00
Organic I (atoms)	4.0537E+12	0.0000E+00
Aerosols (kg)	1.0338E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.5859E-03	3.2573E-01	2.2253E-02
Accumulated dose (rem)	1.5024E-02	7.2419E-01	4.5036E-02

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9964E-04	3.4130E-02	2.3317E-03
Accumulated dose (rem)	1.5742E-03	7.5881E-02	4.7190E-03

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.6222E-04	1.0897E+00	4.5809E-02
Accumulated dose (rem)	1.3837E-03	2.0234E+00	8.4720E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.7021E+01	1.4787E-06	1.5354E+19	9.4786E+14
Co-60	5.6293E+01	4.9800E-05	4.9983E+20	1.1347E+15
Kr-85	2.6770E+05	6.8233E-01	4.8342E+24	8.3113E+18
Kr-85m	3.8750E+06	4.7086E-04	3.3360E+21	1.2381E+20
Kr-87	6.0413E+06	2.1328E-04	1.4763E+21	2.0807E+20
Kr-88	9.9994E+06	7.9745E-04	5.4572E+21	3.2491E+20
Rb-86	1.7725E+03	2.1784E-05	1.5254E+20	1.6010E+17
Sr-89	8.4500E+04	2.9085E-03	1.9681E+22	1.7034E+18
Sr-90	1.1483E+04	8.4179E-02	5.6326E+23	2.3146E+17
Sr-91	9.9787E+04	2.7527E-05	1.8217E+20	2.0232E+18
Sr-92	9.1532E+04	7.2821E-06	4.7667E+19	1.8833E+18
Y-90	1.3014E+02	2.3920E-07	1.6006E+18	2.4136E+15
Y-91	1.0657E+03	4.3454E-05	2.8756E+20	2.1446E+16
Y-92	2.8419E+03	2.9534E-07	1.9333E+18	2.6818E+16
Y-93	1.1350E+03	3.4019E-07	2.2029E+18	2.3004E+16
Zr-95	1.2626E+03	5.8770E-05	3.7255E+20	2.5451E+16
Zr-97	1.1807E+03	6.1765E-07	3.8346E+18	2.3879E+16
Nb-95	1.2597E+03	3.2216E-05	2.0422E+20	2.5392E+16
Mo-99	1.5777E+04	3.2896E-05	2.0010E+20	3.1830E+17
Tc-99m	1.4051E+04	2.6721E-06	1.6255E+19	2.8187E+17
Ru-103	1.3946E+04	4.3213E-04	2.5265E+21	2.8114E+17
Ru-105	9.0924E+03	1.3526E-06	7.7578E+18	1.8559E+17
Ru-106	6.2934E+03	1.8811E-03	1.0687E+22	1.2686E+17
Rh-105	9.4760E+03	1.1227E-05	6.4389E+19	1.9086E+17
Sb-127	1.5996E+04	5.9897E-05	2.8402E+20	3.2262E+17
Sb-129	4.4446E+04	7.9038E-06	3.6897E+19	9.0751E+17
Te-127	1.5878E+04	6.0166E-06	2.8530E+19	3.1906E+17
Te-127m	2.7236E+03	2.8875E-04	1.3692E+21	5.4901E+16
Te-129	4.5213E+04	2.1589E-06	1.0079E+19	8.9426E+17
Te-129m	8.9154E+03	2.9594E-04	1.3816E+21	1.7970E+17
Te-131m	3.2938E+04	4.1307E-05	1.8989E+20	6.6518E+17
Te-132	2.3669E+05	7.7963E-04	3.5568E+21	4.7744E+18
I-131	8.8940E+05	7.1740E-03	3.2979E+22	6.8227E+19
I-132	1.2632E+06	1.2238E-04	5.5832E+20	9.7334E+19
I-133	1.8144E+06	1.6017E-03	7.2522E+21	1.4062E+20
I-134	1.2552E+06	4.7054E-05	2.1147E+20	1.2729E+20
I-135	1.6325E+06	4.6486E-04	2.0737E+21	1.2966E+20
Xe-133	2.5275E+07	1.3503E-01	6.1141E+23	7.8498E+20
Xe-135	1.2657E+07	4.9563E-03	2.2109E+22	3.9254E+20
Cs-134	2.0339E+05	1.5720E-01	7.0648E+23	1.8361E+19
Cs-136	5.9399E+04	8.1046E-04	3.5887E+21	5.3665E+18
Cs-137	1.6382E+05	1.8834E+00	8.2790E+24	1.4789E+19
Ba-139	9.1954E+04	5.6217E-06	2.4356E+19	1.9302E+18
Ba-140	1.2463E+05	1.7024E-03	7.3228E+21	2.5126E+18
La-140	1.4641E+03	2.6341E-06	1.1331E+19	2.5895E+16
La-141	1.0443E+03	1.8465E-07	7.8866E+17	2.1350E+16
La-142	8.5432E+02	5.9680E-08	2.5310E+17	1.7856E+16
Ce-141	2.9381E+03	1.0311E-04	4.4040E+20	5.9225E+16
Ce-143	2.8368E+03	4.2717E-06	1.7990E+19	5.7278E+16
Ce-144	2.3592E+03	7.3969E-04	3.0934E+21	4.7556E+16
Pr-143	1.1341E+03	1.6842E-05	7.0926E+19	2.2852E+16
Nd-147	4.5815E+02	5.6633E-06	2.3201E+19	9.2371E+15
Np-239	3.4001E+04	1.4656E-04	3.6930E+20	6.8605E+17
Pu-238	1.0453E+01	6.1057E-04	1.5449E+21	2.1070E+14
Pu-239	9.0999E-01	1.4640E-02	3.6890E+22	1.8343E+13
Pu-240	1.6906E+00	7.4194E-03	1.8617E+22	3.4079E+13
Pu-241	3.6200E+02	3.5141E-03	8.7811E+21	7.2969E+15
Am-241	2.6162E-01	7.6225E-05	1.9047E+20	5.2733E+12
Cm-242	6.3951E+01	1.9296E-05	4.8017E+19	1.2891E+15

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Cm-244                 4.4714E+00  5.5270E-05  1.3641E+20  9.0133E+13

Sprayed Drywell Transport Group Inventory:
Time (h) =   0.6667    Atmosphere     Sump
Noble gases (atoms)    5.4780E+24  0.0000E+00
Elemental I (atoms)    2.0698E+21  1.2948E+22
Organic I (atoms)      4.6256E+20  0.0000E+00
Aerosols (kg)          2.1705E+00  1.5098E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.6372E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.8628E-04
Total I (Ci)                                   6.8548E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9146E+20
Elemental I (atoms)    0.0000E+00  4.2193E+17
Organic I (atoms)      0.0000E+00  5.1878E+16
Aerosols (kg)          0.0000E+00  4.9613E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9146E+20
Elemental I (atoms)    0.0000E+00  4.2193E+17
Organic I (atoms)      0.0000E+00  5.1878E+16
Aerosols (kg)          0.0000E+00  4.9613E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9540E+20
Elemental I (atoms)    0.0000E+00  2.1061E+17
Organic I (atoms)      0.0000E+00  2.5896E+16
Aerosols (kg)          0.0000E+00  2.4765E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3842E+15
Elemental I (atoms)    0.0000E+00  1.5035E+12
Organic I (atoms)      0.0000E+00  1.8354E+11
Aerosols (kg)          0.0000E+00  1.7683E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.9984E+05
Elemental I (atoms)    0.0000E+00  9.8701E+02
Organic I (atoms)      0.0000E+00  7.9029E+01
Aerosols (kg)          0.0000E+00  1.1941E-18

Environment Integral Nuclide Release:

Time (h) =   0.6667       Ci           kg         Atoms         Bq
Co-58                  8.2028E-06  2.5797E-13  2.6785E+12  3.0350E+05
Co-60                  9.8201E-06  8.6874E-12  8.7195E+13  3.6334E+05
Kr-85                  2.1756E+00  5.5453E-06  3.9288E+19  8.0498E+10
Kr-85m                 3.2046E+01  3.8941E-09  2.7589E+16  1.1857E+12
Kr-87                  5.2292E+01  1.8461E-09  1.2779E+16  1.9348E+12
Kr-88                  8.3546E+01  6.6628E-09  4.5596E+16  3.0912E+12
Rb-86                  9.1654E-03  1.1264E-10  7.8878E+14  3.3912E+08
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Sr-89	1.4741E-02	5.0739E-10	3.4333E+15	5.4541E+08
Sr-90	2.0031E-03	1.4685E-08	9.8260E+16	7.4115E+07
Sr-91	1.7429E-02	4.8081E-12	3.1819E+13	6.4489E+08
Sr-92	1.6039E-02	1.2760E-12	8.3524E+12	5.9343E+08
Y-90	2.3630E-05	4.3432E-14	2.9061E+11	8.7430E+05
Y-91	1.8606E-04	7.5868E-12	5.0207E+13	6.8841E+06
Y-92	6.3330E-04	6.5816E-14	4.3082E+11	2.3432E+07
Y-93	1.9823E-04	5.9416E-14	3.8474E+11	7.3345E+06
Zr-95	2.2025E-04	1.0252E-11	6.4991E+13	8.1493E+06
Zr-97	2.0612E-04	1.0782E-13	6.6941E+11	7.6265E+06
Nb-95	2.1976E-04	5.6199E-12	3.5625E+13	8.1310E+06
Mo-99	2.7528E-03	5.7396E-12	3.4914E+13	1.0185E+08
Tc-99m	2.4512E-03	4.6615E-13	2.8356E+12	9.0693E+07
Ru-103	2.4330E-03	7.5385E-11	4.4075E+14	9.0020E+07
Ru-105	1.5904E-03	2.3660E-13	1.3570E+12	5.8846E+07
Ru-106	1.0979E-03	3.2816E-10	1.8643E+15	4.0621E+07
Rh-105	1.6531E-03	1.9585E-12	1.1233E+13	6.1164E+07
Sb-127	2.7908E-03	1.0450E-11	4.9553E+13	1.0326E+08
Sb-129	7.7751E-03	1.3826E-12	6.4546E+12	2.8768E+08
Te-127	2.7700E-03	1.0496E-12	4.9770E+12	1.0249E+08
Te-127m	4.7513E-04	5.0371E-11	2.3885E+14	1.7580E+07
Te-129	7.8950E-03	3.7699E-13	1.7599E+12	2.9212E+08
Te-129m	1.5553E-03	5.1627E-11	2.4101E+14	5.7545E+07
Te-131m	5.7483E-03	7.2088E-12	3.3139E+13	2.1269E+08
Te-132	4.1296E-02	1.3603E-10	6.2058E+14	1.5280E+09
I-131	5.3698E+00	4.3314E-08	1.9912E+17	1.9868E+11
I-132	7.0244E+00	6.8052E-10	3.1047E+15	2.5990E+11
I-133	1.1012E+01	9.7212E-09	4.4017E+16	4.0745E+11
I-134	8.7084E+00	3.2644E-10	1.4671E+15	3.2221E+11
I-135	1.0029E+01	2.8558E-09	1.2739E+16	3.7108E+11
Xe-133	2.0535E+02	1.0971E-06	4.9675E+18	7.5980E+12
Xe-135	1.0167E+02	3.9811E-08	1.7759E+17	3.7617E+12
Cs-134	1.0514E+00	8.1264E-07	3.6521E+18	3.8903E+10
Cs-136	3.0718E-01	4.1912E-09	1.8559E+16	1.1366E+10
Cs-137	8.4688E-01	9.7363E-06	4.2798E+19	3.1335E+10
Ba-139	1.6183E-02	9.8934E-13	4.2863E+12	5.9876E+08
Ba-140	2.1742E-02	2.9699E-10	1.2775E+15	8.0445E+08
La-140	2.7140E-04	4.8828E-13	2.1004E+12	1.0042E+07
La-141	1.8273E-04	3.2311E-14	1.3800E+11	6.7610E+06
La-142	1.5021E-04	1.0493E-14	4.4500E+10	5.5577E+06
Ce-141	5.1253E-04	1.7988E-11	7.6826E+13	1.8964E+07
Ce-143	4.9505E-04	7.4547E-13	3.1394E+12	1.8317E+07
Ce-144	4.1156E-04	1.2904E-10	5.3964E+14	1.5228E+07
Pr-143	1.9787E-04	2.9384E-12	1.2375E+13	7.3212E+06
Nd-147	7.9928E-05	9.8800E-13	4.0475E+12	2.9573E+06
Np-239	5.9327E-03	2.5573E-11	6.4437E+13	2.1951E+08
Pu-238	1.8235E-06	1.0651E-10	2.6951E+14	6.7468E+04
Pu-239	1.5875E-07	2.5540E-09	6.4353E+15	5.8736E+03
Pu-240	2.9493E-07	1.2943E-09	3.2477E+15	1.0912E+04
Pu-241	6.3150E-05	6.1303E-10	1.5318E+15	2.3365E+06
Am-241	4.5638E-08	1.3297E-11	3.3227E+13	1.6886E+03
Cm-242	1.1156E-05	3.3661E-12	8.3765E+12	4.1278E+05
Cm-244	7.8003E-07	9.6416E-12	2.3796E+13	2.8861E+04

Environment Transport Group Inventory:

Time (h) = 0.6667	Total Release	Release Rate/s
Noble gases (atoms)	4.4519E+19	1.8549E+16
Elemental I (atoms)	8.1869E+16	3.4111E+13
Organic I (atoms)	7.0916E+15	2.9547E+12
Aerosols (kg)	1.0612E-05	4.4213E-09

Dose Effective (Ci) I-131 (Thyroid)	7.5437E+00
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.5496E+00
Total I (Ci)	4.2144E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2561E+19
Elemental I (atoms)    4.2208E+15  5.7486E+16
Organic I (atoms)      0.0000E+00  5.1250E+15
Aerosols (kg)          6.5513E-05  9.0862E-06

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0536E+19
Elemental I (atoms)    3.7851E+15  2.1500E+16
Organic I (atoms)      0.0000E+00  1.7420E+15
Aerosols (kg)          5.9831E-06  1.4753E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4421E+18
Elemental I (atoms)    5.3891E+14  3.0610E+15
Organic I (atoms)      0.0000E+00  2.3906E+14
Aerosols (kg)          4.4581E-07  5.4931E-08

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0097E+16
Elemental I (atoms)    0.0000E+00  1.1072E+14
Organic I (atoms)      0.0000E+00  9.5905E+12
Aerosols (kg)          0.0000E+00  1.4323E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0927E+17
Elemental I (atoms)    0.0000E+00  2.0131E+14
Organic I (atoms)      0.0000E+00  1.7437E+13
Aerosols (kg)          0.0000E+00  2.6043E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   0.6667     Filtered   Transported
Noble gases (atoms)    7.2983E+16  0.0000E+00
Elemental I (atoms)    1.6580E+14  0.0000E+00
Organic I (atoms)      1.2077E+13  0.0000E+00
Aerosols (kg)          2.2064E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.1148E-02  1.0210E+00  9.8170E-02
Accumulated dose (rem)  6.6171E-02  1.7452E+00  1.4321E-01

Low Population Zone Doses:

Time (h) =   1.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.3593E-03  1.0699E-01  1.0286E-02
Accumulated dose (rem)  6.9335E-03  1.8287E-01  1.5005E-02

Control Room Doses:
```

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5617E-03	2.2507E+00	9.8376E-02
Accumulated dose (rem)	4.9454E-03	4.2741E+00	1.8310E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 1.0000	Ci	kg	Atoms	Decay
Co-58	5.1188E+01	1.6098E-06	1.6714E+19	3.2008E+15
Co-60	6.1289E+01	5.4219E-05	5.4419E+20	3.8321E+15
Kr-85	6.3085E+05	1.6079E+00	1.1392E+25	3.0515E+19
Kr-85m	8.6725E+06	1.0538E-03	7.4663E+21	4.3611E+20
Kr-87	1.1872E+07	4.1911E-04	2.9011E+21	6.6136E+20
Kr-88	2.1723E+07	1.7324E-03	1.1855E+22	1.1176E+21
Rb-86	1.8073E+03	2.2212E-05	1.5554E+20	2.4019E+17
Sr-89	9.1982E+04	3.1661E-03	2.1423E+22	5.7520E+18
Sr-90	1.2502E+04	9.1650E-02	6.1325E+23	7.8167E+17
Sr-91	1.0603E+05	2.9251E-05	1.9357E+20	6.7467E+18
Sr-92	9.1513E+04	7.2806E-06	4.7657E+19	6.0864E+18
Y-90	1.4574E+02	2.6788E-07	1.7924E+18	8.2335E+15
Y-91	1.1607E+03	4.7331E-05	3.1322E+20	7.2437E+16
Y-92	3.4757E+03	3.6122E-07	2.3644E+18	1.0126E+17
Y-93	1.2078E+03	3.6201E-07	2.3442E+18	7.6769E+16
Zr-95	1.3744E+03	6.3977E-05	4.0556E+20	8.5944E+16
Zr-97	1.2681E+03	6.6334E-07	4.1183E+18	8.0069E+16
Nb-95	1.3715E+03	3.5075E-05	2.2234E+20	8.5752E+16
Mo-99	1.7118E+04	3.5690E-05	2.1710E+20	1.0730E+18
Tc-99m	1.5293E+04	2.9084E-06	1.7692E+19	9.5145E+17
Ru-103	1.5181E+04	4.7037E-04	2.7501E+21	9.4933E+17
Ru-105	9.3975E+03	1.3980E-06	8.0181E+18	6.1006E+17
Ru-106	6.8518E+03	2.0480E-03	1.1635E+22	4.2842E+17
Rh-105	1.0313E+04	1.2218E-05	7.0075E+19	6.4445E+17
Sb-127	1.7372E+04	6.5051E-05	3.0846E+20	1.0881E+18
Sb-129	4.5871E+04	8.1572E-06	3.8080E+19	2.9810E+18
Te-127	1.7286E+04	6.5501E-06	3.1059E+19	1.0773E+18
Te-127m	2.9654E+03	3.1438E-04	1.4907E+21	1.8541E+17
Te-129	4.8240E+04	2.3035E-06	1.0753E+19	2.9863E+18
Te-129m	9.7069E+03	3.2222E-04	1.5042E+21	6.0689E+17
Te-131m	3.5587E+04	4.4628E-05	2.0516E+20	2.2374E+18
Te-132	2.5694E+05	8.4632E-04	3.8611E+21	1.6099E+19
I-131	9.2445E+05	7.4568E-03	3.4279E+22	1.0904E+20
I-132	1.3067E+06	1.2660E-04	5.7756E+20	1.5560E+20
I-133	1.8670E+06	1.6481E-03	7.4624E+21	2.2347E+20
I-134	1.0035E+06	3.7617E-05	1.6905E+20	1.7793E+20
I-135	1.6403E+06	4.6706E-04	2.0835E+21	2.0332E+20
Xe-133	5.9515E+07	3.1795E-01	1.4397E+24	2.8807E+21
Xe-135	2.9745E+07	1.1648E-02	5.1958E+22	1.4442E+21
Cs-134	2.0749E+05	1.6037E-01	7.2070E+23	2.7554E+19
Cs-136	6.0552E+04	8.2618E-04	3.6584E+21	8.0501E+18
Cs-137	1.6713E+05	1.9214E+00	8.4459E+24	2.2193E+19
Ba-139	8.4666E+04	5.1762E-06	2.2426E+19	5.9848E+18
Ba-140	1.3559E+05	1.8521E-03	7.9667E+21	8.4822E+18
La-140	1.6639E+03	2.9935E-06	1.2877E+19	8.8877E+16
La-141	1.0721E+03	1.8957E-07	8.0964E+17	6.9938E+16
La-142	8.0071E+02	5.5934E-08	2.3721E+17	5.5855E+16
Ce-141	3.1987E+03	1.1226E-04	4.7947E+20	2.0001E+17
Ce-143	3.0670E+03	4.6185E-06	1.9450E+19	1.9273E+17
Ce-144	2.5685E+03	8.0532E-04	3.3679E+21	1.6060E+17
Pr-143	1.2349E+03	1.8338E-05	7.7228E+19	7.7178E+16
Nd-147	4.9838E+02	6.1606E-06	2.5238E+19	3.1181E+16
Np-239	3.6868E+04	1.5892E-04	4.0043E+20	2.3119E+18
Pu-238	1.1381E+01	6.6477E-04	1.6821E+21	7.1157E+14
Pu-239	9.9080E-01	1.5940E-02	4.0166E+22	6.1948E+13
Pu-240	1.8407E+00	8.0780E-03	2.0269E+22	1.1509E+14
Pu-241	3.9413E+02	3.8260E-03	9.5605E+21	2.4643E+16
Am-241	2.8485E-01	8.2993E-05	2.0738E+20	1.7809E+13
Cm-242	6.9623E+01	2.1007E-05	5.2276E+19	4.3534E+15
Cm-244	4.8683E+00	6.0175E-05	1.4852E+20	3.0439E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 1.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2906E+25	0.0000E+00	
Elemental I (atoms)	2.1267E+21	2.3555E+22	
Organic I (atoms)	7.8815E+20	0.0000E+00	
Aerosols (kg)	2.2226E+00	2.6161E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.8009E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0376E-04
Total I (Ci)			6.7419E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5429E+21
Elemental I (atoms)	0.0000E+00	6.8768E+17
Organic I (atoms)	0.0000E+00	1.3032E+17
Aerosols (kg)	0.0000E+00	7.7329E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5429E+21
Elemental I (atoms)	0.0000E+00	6.8768E+17
Organic I (atoms)	0.0000E+00	1.3032E+17
Aerosols (kg)	0.0000E+00	7.7329E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7015E+20
Elemental I (atoms)	0.0000E+00	3.4326E+17
Organic I (atoms)	0.0000E+00	6.5051E+16
Aerosols (kg)	0.0000E+00	3.8600E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4481E+15
Elemental I (atoms)	0.0000E+00	2.4414E+12
Organic I (atoms)	0.0000E+00	4.6040E+11
Aerosols (kg)	0.0000E+00	2.7466E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5941E+06
Elemental I (atoms)	0.0000E+00	2.2912E+03
Organic I (atoms)	0.0000E+00	2.8450E+02
Aerosols (kg)	0.0000E+00	2.7006E-18

Environment Integral Nuclide Release:

Time (h) = 1.0000	Ci	kg	Atoms	Bq
Co-58	1.1771E-04	3.7019E-12	3.8437E+13	4.3554E+06
Co-60	1.4094E-04	1.2468E-10	1.2514E+15	5.2147E+06
Kr-85	1.1693E+01	2.9802E-05	2.1115E+20	4.3262E+11
Kr-85m	1.6461E+02	2.0002E-08	1.4171E+17	6.0905E+12
Kr-87	2.4003E+02	8.4740E-09	5.8657E+16	8.8812E+12
Kr-88	4.1815E+02	3.3347E-08	2.2821E+17	1.5471E+13
Rb-86	2.0475E-02	2.5163E-10	1.7620E+15	7.5756E+08
Sr-89	2.1153E-01	7.2811E-09	4.9267E+16	7.8267E+09

Sr-90	2.8748E-02	2.1075E-07	1.4102E+18	1.0637E+09
Sr-91	2.4571E-01	6.7781E-11	4.4856E+14	9.0911E+09
Sr-92	2.1623E-01	1.7203E-11	1.1261E+14	8.0007E+09
Y-90	3.8389E-04	7.0559E-13	4.7213E+12	1.4204E+07
Y-91	2.6774E-03	1.0918E-10	7.2250E+14	9.9064E+07
Y-92	1.4864E-02	1.5448E-12	1.0112E+13	5.4998E+08
Y-93	2.7975E-03	8.3849E-13	5.4296E+12	1.0351E+08
Zr-95	3.1607E-03	1.4713E-10	9.3264E+14	1.1695E+08
Zr-97	2.9286E-03	1.5320E-12	9.5110E+12	1.0836E+08
Nb-95	3.1539E-03	8.0657E-11	5.1129E+14	1.1670E+08
Mo-99	3.9406E-02	8.2163E-11	4.9979E+14	1.4580E+09
Tc-99m	3.5171E-02	6.6887E-12	4.0687E+13	1.3013E+09
Ru-103	3.4911E-02	1.0817E-09	6.3245E+15	1.2917E+09
Ru-105	2.1969E-02	3.2682E-12	1.8745E+13	8.1286E+08
Ru-106	1.5756E-02	4.7096E-09	2.6756E+16	5.8298E+08
Rh-105	2.3718E-02	2.8100E-11	1.6117E+14	8.7757E+08
Sb-127	3.9979E-02	1.4971E-10	7.0988E+14	1.4792E+09
Sb-129	1.0729E-01	1.9079E-11	8.9065E+13	3.9696E+09
Te-127	3.9752E-02	1.5063E-11	7.1425E+13	1.4708E+09
Te-127m	6.8191E-03	7.2293E-10	3.4280E+15	2.5231E+08
Te-129	1.1166E-01	5.3317E-12	2.4890E+13	4.1314E+09
Te-129m	2.2322E-02	7.4096E-10	3.4590E+15	8.2590E+08
Te-131m	8.2033E-02	1.0287E-10	4.7292E+14	3.0352E+09
Te-132	5.9139E-01	1.9480E-09	8.8871E+15	2.1881E+10
I-131	1.2904E+01	1.0409E-07	4.7850E+17	4.7746E+11
I-132	1.6418E+01	1.5905E-09	7.2564E+15	6.0746E+11
I-133	2.6282E+01	2.3200E-08	1.0505E+17	9.7242E+11
I-134	1.7631E+01	6.6092E-10	2.9703E+15	6.5235E+11
I-135	2.3547E+01	6.7051E-09	2.9911E+16	8.7126E+11
Xe-133	1.1027E+03	5.8912E-06	2.6675E+19	4.0801E+13
Xe-135	5.4378E+02	2.1294E-07	9.4987E+17	2.0120E+13
Cs-134	2.3495E+00	1.8160E-06	8.1612E+18	8.6933E+10
Cs-136	6.8611E-01	9.3614E-09	4.1453E+16	2.5386E+10
Cs-137	1.8925E+00	2.1757E-05	9.5639E+19	7.0022E+10
Ba-139	2.0553E-01	1.2566E-11	5.4440E+13	7.6048E+09
Ba-140	3.1187E-01	4.2600E-09	1.8324E+16	1.1539E+10
La-140	4.6659E-03	8.3944E-12	3.6109E+13	1.7264E+08
La-141	2.5117E-03	4.4412E-13	1.8969E+12	9.2932E+07
La-142	1.9324E-03	1.3499E-13	5.7248E+11	7.1497E+07
Ce-141	7.3551E-03	2.5813E-10	1.1025E+15	2.7214E+08
Ce-143	7.0684E-03	1.0644E-11	4.4824E+13	2.6153E+08
Ce-144	5.9066E-03	1.8519E-09	7.7447E+15	2.1854E+08
Pr-143	2.8411E-03	4.2191E-11	1.7768E+14	1.0512E+08
Nd-147	1.1464E-03	1.4170E-11	5.8052E+13	4.2416E+07
Np-239	8.4889E-02	3.6592E-10	9.2201E+14	3.1409E+09
Pu-238	2.6170E-05	1.5287E-09	3.8680E+15	9.6830E+05
Pu-239	2.2784E-06	3.6656E-08	9.2362E+16	8.4300E+04
Pu-240	4.2328E-06	1.8576E-08	4.6611E+16	1.5661E+05
Pu-241	9.0632E-04	8.7981E-09	2.1985E+16	3.3534E+07
Am-241	6.5503E-07	1.9085E-10	4.7690E+14	2.4236E+04
Cm-242	1.6011E-04	4.8308E-11	1.2021E+14	5.9239E+06
Cm-244	1.1195E-05	1.3838E-10	3.4152E+14	4.1421E+05

Environment Transport Group Inventory:

Time (h) = 1.0000	Total Release	Release Rate/s	
Noble gases (atoms)	2.3920E+20	6.6444E+16	
Elemental I (atoms)	1.9891E+17	5.5254E+13	
Organic I (atoms)	2.6946E+16	7.4851E+12	
Aerosols (kg)	2.3971E-05	6.6585E-09	
Dose Effective (Ci) I-131 (Thyroid)			1.8076E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.2781E+01
Total I (Ci)			9.6782E+01

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.6642E+20
Elemental I (atoms)    9.3911E+15  1.2791E+17
Organic I (atoms)      0.0000E+00  1.7887E+16
Aerosols (kg)          1.4158E-04  1.9635E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3719E+19
Elemental I (atoms)    1.0878E+16  6.1786E+16
Organic I (atoms)      0.0000E+00  7.9455E+15
Aerosols (kg)          1.6910E-05  4.1696E-06

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.1150E+18
Elemental I (atoms)    1.6931E+15  9.6170E+15
Organic I (atoms)      0.0000E+00  1.1666E+15
Aerosols (kg)          1.3816E-06  1.7024E-07

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.7512E+17
Elemental I (atoms)    1.2821E+14  1.1202E+14
Organic I (atoms)      2.1749E+13  9.8102E+12
Aerosols (kg)          1.4606E-08  1.4471E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5645E+17
Elemental I (atoms)    0.0000E+00  2.2973E+14
Organic I (atoms)      0.0000E+00  2.2258E+13
Aerosols (kg)          0.0000E+00  2.9280E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   1.0000     Filtered   Transported
Noble gases (atoms)    1.6090E+17  0.0000E+00
Elemental I (atoms)    2.3270E+14  0.0000E+00
Organic I (atoms)      1.9275E+13  0.0000E+00
Aerosols (kg)          3.0442E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.7301E-01  6.0373E+00  1.0712E+00
Accumulated dose (rem)  8.3919E-01  7.7826E+00  1.2144E+00

Low Population Zone Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.0997E-02  6.3260E-01  1.1224E-01
Accumulated dose (rem)  8.7931E-02  8.1546E-01  1.2724E-01

Control Room Doses:

Time (h) =   2.0000    Whole Body   Thyroid       TEDE
```

Delta dose (rem)	6.5986E-02	5.5781E+00	3.2195E-01
Accumulated dose (rem)	7.0932E-02	9.8522E+00	5.0504E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.1195E+01	1.6100E-06	1.6717E+19	1.0021E+16
Co-60	6.1322E+01	5.4249E-05	5.4449E+20	1.2000E+16
Kr-85	1.7197E+06	4.3834E+00	3.1055E+25	1.8780E+20
Kr-85m	2.0253E+07	2.4610E-03	1.7436E+22	2.4156E+21
Kr-87	1.8764E+07	6.6243E-04	4.5853E+21	2.8480E+21
Kr-88	4.6393E+07	3.6998E-03	2.5319E+22	5.8333E+21
Rb-86	1.8048E+03	2.2180E-05	1.5532E+20	4.8077E+17
Sr-89	9.1981E+04	3.1660E-03	2.1423E+22	1.8007E+19
Sr-90	1.2509E+04	9.1701E-02	6.1359E+23	2.4478E+18
Sr-91	9.8627E+04	2.7207E-05	1.8005E+20	2.0374E+19
Sr-92	7.0899E+04	5.6406E-06	3.6922E+19	1.6847E+19
Y-90	1.3822E+02	2.5406E-07	1.7000E+18	2.6529E+16
Y-91	1.1597E+03	4.7287E-05	3.1294E+20	2.2691E+17
Y-92	2.0967E+03	2.1790E-07	1.4263E+18	3.9089E+17
Y-93	1.1283E+03	3.3819E-07	2.1899E+18	2.3233E+17
Zr-95	1.3746E+03	6.3983E-05	4.0560E+20	2.6907E+17
Zr-97	1.2178E+03	6.3703E-07	3.9550E+18	2.4565E+17
Nb-95	1.3723E+03	3.5094E-05	2.2246E+20	2.6853E+17
Mo-99	1.6948E+04	3.5337E-05	2.1495E+20	3.3423E+18
Tc-99m	1.5269E+04	2.9038E-06	1.7664E+19	2.9864E+18
Ru-103	1.5178E+04	4.7028E-04	2.7496E+21	2.9717E+18
Ru-105	8.0436E+03	1.1966E-06	6.8630E+18	1.7696E+18
Ru-106	6.8551E+03	2.0490E-03	1.1641E+22	1.3415E+18
Rh-105	1.0287E+04	1.2188E-05	6.9901E+19	2.0169E+18
Sb-127	1.7252E+04	6.4600E-05	3.0632E+20	3.3946E+18
Sb-129	3.9093E+04	6.9518E-06	3.2453E+19	8.6289E+18
Te-127	1.7283E+04	6.5487E-06	3.1053E+19	3.3793E+18
Te-127m	2.9671E+03	3.1456E-04	1.4916E+21	5.8061E+17
Te-129	4.4018E+04	2.1019E-06	9.8121E+18	9.1233E+18
Te-129m	9.7120E+03	3.2239E-04	1.5050E+21	1.9005E+18
Te-131m	3.4793E+04	4.3633E-05	2.0058E+20	6.9257E+18
Te-132	2.5481E+05	8.3932E-04	3.8292E+21	5.0190E+19
I-131	9.4215E+05	7.5995E-03	3.4935E+22	2.3339E+20
I-132	1.3419E+06	1.3000E-04	5.9311E+20	3.3326E+20
I-133	1.8459E+06	1.6295E-03	7.3783E+21	4.7081E+20
I-134	4.6525E+05	1.7440E-05	7.8378E+19	2.7122E+20
I-135	1.5098E+06	4.2992E-04	1.9178E+21	4.1304E+20
Xe-133	1.6182E+08	8.6451E-01	3.9144E+24	1.7698E+22
Xe-135	7.9813E+07	3.1254E-02	1.3942E+23	8.8028E+21
Cs-134	2.0751E+05	1.6038E-01	7.2077E+23	5.5194E+19
Cs-136	6.0427E+04	8.2447E-04	3.6508E+21	1.6108E+19
Cs-137	1.6715E+05	1.9216E+00	8.4470E+24	4.4457E+19
Ba-139	5.1233E+04	3.1322E-06	1.3570E+19	1.4852E+19
Ba-140	1.3536E+05	1.8489E-03	7.9531E+21	2.6531E+19
La-140	1.5338E+03	2.7596E-06	1.1870E+19	2.9120E+17
La-141	8.9921E+02	1.5900E-07	6.7910E+17	2.0092E+17
La-142	5.1103E+02	3.5699E-08	1.5140E+17	1.4180E+17
Ce-141	3.1999E+03	1.1230E-04	4.7965E+20	6.2627E+17
Ce-143	3.0049E+03	4.5250E-06	1.9056E+19	5.9721E+17
Ce-144	2.5697E+03	8.0568E-04	3.3694E+21	5.0289E+17
Pr-143	1.2353E+03	1.8344E-05	7.7254E+19	2.4171E+17
Nd-147	4.9735E+02	6.1478E-06	2.5186E+19	9.7513E+16
Np-239	3.6439E+04	1.5707E-04	3.9577E+20	7.1953E+18
Pu-238	1.1387E+01	6.6514E-04	1.6830E+21	2.2283E+15
Pu-239	9.9147E-01	1.5951E-02	4.0193E+22	1.9400E+14
Pu-240	1.8417E+00	8.0824E-03	2.0281E+22	3.6040E+14
Pu-241	3.9434E+02	3.8281E-03	9.5657E+21	7.7168E+16
Am-241	2.8503E-01	8.3047E-05	2.0752E+20	5.5772E+13
Cm-242	6.9650E+01	2.1015E-05	5.2295E+19	1.3631E+16
Cm-244	4.8710E+00	6.0208E-05	1.4860E+20	9.5319E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000	Atmosphere	Sump	
Noble gases (atoms)	3.5157E+25	0.0000E+00	
Elemental I (atoms)	2.0964E+21	5.5231E+22	
Organic I (atoms)	1.7439E+21	0.0000E+00	
Aerosols (kg)	2.2228E+00	5.9503E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.8384E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			6.0127E-04
Total I (Ci)			6.1051E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0575E+22
Elemental I (atoms)	0.0000E+00	1.4812E+18
Organic I (atoms)	0.0000E+00	6.0707E+17
Aerosols (kg)	0.0000E+00	1.6086E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0575E+22
Elemental I (atoms)	0.0000E+00	1.4812E+18
Organic I (atoms)	0.0000E+00	6.0707E+17
Aerosols (kg)	0.0000E+00	1.6086E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2788E+21
Elemental I (atoms)	0.0000E+00	7.3937E+17
Organic I (atoms)	0.0000E+00	3.0302E+17
Aerosols (kg)	0.0000E+00	8.0295E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7327E+16
Elemental I (atoms)	0.0000E+00	5.2422E+12
Organic I (atoms)	0.0000E+00	2.1430E+12
Aerosols (kg)	0.0000E+00	5.6947E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0430E+07
Elemental I (atoms)	0.0000E+00	9.8738E+03
Organic I (atoms)	0.0000E+00	2.6537E+03
Aerosols (kg)	0.0000E+00	1.1150E-17

Environment Integral Nuclide Release:

Time (h) = 2.0000	Ci	kg	Atoms	Bq
Co-58	1.2240E-03	3.8495E-11	3.9969E+14	4.5290E+07
Co-60	1.4659E-03	1.2968E-09	1.3016E+16	5.4238E+07
Kr-85	1.9836E+02	5.0560E-04	3.5821E+21	7.3395E+12
Kr-85m	2.4874E+03	3.0225E-07	2.1414E+18	9.2033E+13
Kr-87	2.7309E+03	9.6410E-08	6.6735E+17	1.0104E+14
Kr-88	5.9148E+03	4.7171E-07	3.2280E+18	2.1885E+14
Rb-86	7.7431E-02	9.5162E-10	6.6637E+15	2.8650E+09
Sr-89	2.1994E+00	7.5704E-08	5.1225E+17	8.1377E+10
Sr-90	2.9902E-01	2.1921E-06	1.4668E+19	1.1064E+10

Sr-91	2.4424E+00	6.7376E-10	4.4588E+15	9.0368E+10
Sr-92	1.9232E+00	1.5301E-10	1.0016E+15	7.1159E+10
Y-90	4.8593E-03	8.9315E-12	5.9763E+13	1.7979E+08
Y-91	2.7977E-02	1.1408E-09	7.5496E+15	1.0352E+09
Y-92	2.3622E-01	2.4549E-11	1.6069E+14	8.7401E+09
Y-93	2.7882E-02	8.3571E-12	5.4116E+13	1.0316E+09
Zr-95	3.2865E-02	1.5298E-09	9.6978E+15	1.2160E+09
Zr-97	2.9693E-02	1.5532E-11	9.6430E+13	1.0986E+09
Nb-95	3.2804E-02	8.3892E-10	5.3180E+15	1.2138E+09
Mo-99	4.0719E-01	8.4900E-10	5.1644E+15	1.5066E+10
Tc-99m	3.6539E-01	6.9490E-11	4.2270E+14	1.3520E+10
Ru-103	3.6295E-01	1.1246E-08	6.5752E+16	1.3429E+10
Ru-105	2.0752E-01	3.0872E-11	1.7706E+14	7.6783E+09
Ru-106	1.6388E-01	4.8983E-08	2.7828E+17	6.0634E+09
Rh-105	2.4631E-01	2.9182E-10	1.6737E+15	9.1136E+09
Sb-127	4.1388E-01	1.5498E-09	7.3490E+15	1.5314E+10
Sb-129	1.0108E+00	1.7974E-10	8.3909E+14	3.7398E+10
Te-127	4.1330E-01	1.5661E-10	7.4260E+14	1.5292E+10
Te-127m	7.0927E-02	7.5193E-09	3.5655E+16	2.6243E+09
Te-129	1.1017E+00	5.2607E-11	2.4559E+14	4.0764E+10
Te-129m	2.3217E-01	7.7067E-09	3.5978E+16	8.5902E+09
Te-131m	8.4103E-01	1.0547E-09	4.8485E+15	3.1118E+10
Te-132	6.1172E+00	2.0149E-08	9.1926E+16	2.2634E+11
I-131	5.7541E+01	4.6413E-07	2.1336E+18	2.1290E+12
I-132	6.9570E+01	6.7399E-09	3.0749E+16	2.5741E+12
I-133	1.1493E+02	1.0146E-07	4.5939E+17	4.2524E+12
I-134	4.9480E+01	1.8548E-09	8.3357E+15	1.8308E+12
I-135	9.8375E+01	2.8012E-08	1.2496E+17	3.6399E+12
Xe-133	1.8663E+04	9.9703E-05	4.5145E+20	6.9052E+14
Xe-135	9.0432E+03	3.5412E-06	1.5797E+19	3.3460E+14
Cs-134	8.8938E+00	6.8740E-06	3.0893E+19	3.2907E+11
Cs-136	2.5937E+00	3.5389E-08	1.5670E+17	9.5966E+10
Cs-137	7.1639E+00	8.2360E-05	3.6203E+20	2.6506E+11
Ba-139	1.5816E+00	9.6692E-11	4.1892E+14	5.8519E+10
Ba-140	3.2392E+00	4.4246E-08	1.9032E+17	1.1985E+11
La-140	6.3387E-02	1.1404E-10	4.9055E+14	2.3453E+09
La-141	2.3435E-02	4.1438E-12	1.7698E+13	8.6709E+08
La-142	1.5333E-02	1.0711E-12	4.5425E+12	5.6732E+08
Ce-141	7.6485E-02	2.6843E-09	1.1465E+16	2.8299E+09
Ce-143	7.2562E-02	1.0927E-10	4.6015E+14	2.6848E+09
Ce-144	6.1431E-02	1.9260E-08	8.0548E+16	2.2730E+09
Pr-143	2.9575E-02	4.3920E-10	1.8496E+15	1.0943E+09
Nd-147	1.1904E-02	1.4715E-10	6.0282E+14	4.4045E+08
Np-239	8.7621E-01	3.7769E-09	9.5168E+15	3.2420E+10
Pu-238	2.7220E-04	1.5900E-08	4.0232E+16	1.0071E+07
Pu-239	2.3700E-05	3.8129E-07	9.6074E+17	8.7688E+05
Pu-240	4.4026E-05	1.9321E-07	4.8480E+17	1.6290E+06
Pu-241	9.4267E-03	9.1510E-08	2.2867E+17	3.4879E+08
Am-241	6.8138E-06	1.9853E-09	4.9608E+15	2.5211E+05
Cm-242	1.6651E-03	5.0240E-10	1.2502E+15	6.1609E+07
Cm-244	1.1644E-04	1.4393E-09	3.5522E+15	4.3083E+06

Environment Transport Group Inventory:

Time (h) = 2.0000	Total Release	Release Rate/s
Noble gases (atoms)	4.0554E+21	5.6325E+17
Elemental I (atoms)	8.7341E+17	1.2131E+14
Organic I (atoms)	2.6753E+17	3.7157E+13
Aerosols (kg)	9.2754E-05	1.2882E-08

Dose Effective (Ci) I-131 (Thyroid)	7.9983E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	9.9797E+01
Total I (Ci)	3.8990E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Pathway

```
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3565E+21
Elemental I (atoms)    3.5439E+16  4.8267E+17
Organic I (atoms)      0.0000E+00  1.5072E+17
Aerosols (kg)          5.0947E-04  7.0660E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4554E+21
Elemental I (atoms)    5.7795E+16  3.2828E+17
Organic I (atoms)      0.0000E+00  9.9575E+16
Aerosols (kg)          8.5304E-05  2.1034E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.4360E+20
Elemental I (atoms)    1.1087E+16  6.2977E+16
Organic I (atoms)      0.0000E+00  1.7325E+16
Aerosols (kg)          8.6447E-06  1.0652E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4896E+18
Elemental I (atoms)    8.6577E+14  1.1947E+14
Organic I (atoms)      2.8483E+14  1.2468E+13
Aerosols (kg)          8.9807E-08  1.5231E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0813E+18
Elemental I (atoms)    0.0000E+00  3.9322E+14
Organic I (atoms)      0.0000E+00  8.0572E+13
Aerosols (kg)          0.0000E+00  4.5949E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.0000     Filtered   Transported
Noble gases (atoms)    2.3923E+18  0.0000E+00
Elemental I (atoms)    3.9728E+14  0.0000E+00
Organic I (atoms)      5.4437E+13  0.0000E+00
Aerosols (kg)          4.9329E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.7416E-01  9.6554E-01  2.2213E-01
Accumulated dose (rem)  1.0133E+00  8.7481E+00  1.4365E+00

Low Population Zone Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.5633E-03  4.1930E-02  9.6461E-03
Accumulated dose (rem)  9.5494E-02  8.5739E-01  1.3689E-01

Control Room Doses:

Time (h) =   2.2000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7664E-02  1.1826E+00  8.5057E-02
```

Accumulated dose (rem) 9.8595E-02 1.1035E+01 5.9010E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	2.5483E+00	8.0141E-08	8.3210E+17	1.0207E+16
Co-60	3.0526E+00	2.7005E-06	2.7105E+19	1.2223E+16
Kr-85	1.7196E+06	4.3829E+00	3.1052E+25	2.3361E+20
Kr-85m	1.9633E+07	2.3857E-03	1.6903E+22	2.9468E+21
Kr-87	1.6824E+07	5.9395E-04	4.1113E+21	3.3216E+21
Kr-88	4.4178E+07	3.5232E-03	2.4110E+22	7.0394E+21
Rb-86	8.9814E+01	1.1038E-06	7.7294E+18	4.8733E+17
Sr-89	4.5783E+03	1.5759E-04	1.0663E+21	1.8341E+19
Sr-90	6.2268E+02	4.5649E-03	3.0545E+22	2.4932E+18
Sr-91	4.8386E+03	1.3348E-06	8.8332E+18	2.0731E+19
Sr-92	3.3534E+03	2.6679E-07	1.7464E+18	1.7101E+19
Y-90	8.2141E+00	1.5098E-08	1.0102E+17	2.7041E+16
Y-91	5.7925E+01	2.3620E-06	1.5631E+19	2.3113E+17
Y-92	2.3378E+02	2.4296E-08	1.5904E+17	3.9931E+17
Y-93	5.5402E+01	1.6606E-08	1.0753E+17	2.3641E+17
Zr-95	6.8420E+01	3.1848E-06	2.0189E+19	2.7407E+17
Zr-97	6.0128E+01	3.1453E-08	1.9527E+17	2.5006E+17
Nb-95	6.8313E+01	1.7470E-06	1.1074E+19	2.7352E+17
Mo-99	8.4192E+02	1.7554E-06	1.0678E+19	3.4039E+18
Tc-99m	7.5977E+02	1.4449E-07	8.7893E+17	3.0415E+18
Ru-103	7.5545E+02	2.3407E-05	1.3686E+20	3.0269E+18
Ru-105	3.8811E+02	5.7737E-08	3.3114E+17	1.7985E+18
Ru-106	3.4125E+02	1.0200E-04	5.7948E+20	1.3664E+18
Rh-105	5.1164E+02	6.0617E-07	3.4766E+18	2.0543E+18
Sb-127	8.5751E+02	3.2110E-06	1.5226E+19	3.4573E+18
Sb-129	1.8846E+03	3.3514E-07	1.5645E+18	8.7695E+18
Te-127	8.6022E+02	3.2595E-07	1.5456E+18	3.4419E+18
Te-127m	1.4770E+02	1.5659E-05	7.4252E+19	5.9139E+17
Te-129	2.1519E+03	1.0276E-07	4.7970E+17	9.2784E+18
Te-129m	4.8346E+02	1.6048E-05	7.4918E+19	1.9358E+18
Te-131m	1.7241E+03	2.1621E-06	9.9392E+18	7.0519E+18
Te-132	1.2662E+04	4.1708E-05	1.9028E+20	5.1115E+19
I-131	8.1608E+04	6.5827E-04	3.0261E+21	2.3765E+20
I-132	1.1046E+05	1.0702E-05	4.8823E+19	3.3921E+20
I-133	1.5894E+05	1.4031E-04	6.3530E+20	4.7914E+20
I-134	3.4429E+04	1.2906E-06	5.8002E+18	2.7321E+20
I-135	1.2815E+05	3.6492E-05	1.6278E+20	4.1983E+20
Xe-133	1.6162E+08	8.6346E-01	3.9097E+24	2.2006E+22
Xe-135	7.8600E+07	3.0779E-02	1.3730E+23	1.0913E+22
Cs-134	1.0330E+04	7.9838E-03	3.5880E+22	5.5948E+19
Cs-136	3.0067E+03	4.1025E-05	1.8166E+20	1.6327E+19
Cs-137	8.3207E+03	9.5660E-02	4.2050E+23	4.5065E+19
Ba-139	2.3064E+03	1.4100E-07	6.1089E+17	1.5032E+19
Ba-140	6.7350E+03	9.1998E-05	3.9573E+20	2.7023E+19
La-140	9.9263E+01	1.7859E-07	7.6819E+17	2.9692E+17
La-141	4.3212E+01	7.6409E-09	3.2634E+16	2.0415E+17
La-142	2.3252E+01	1.6243E-09	6.8885E+15	1.4360E+17
Ce-141	1.5927E+02	5.5898E-06	2.3874E+19	6.3790E+17
Ce-143	1.4896E+02	2.2431E-07	9.4464E+17	6.0812E+17
Ce-144	1.2792E+02	4.0106E-05	1.6773E+20	5.1223E+17
Pr-143	6.1531E+01	9.1375E-07	3.8481E+18	2.4620E+17
Nd-147	2.4745E+01	3.0588E-07	1.2531E+18	9.9320E+16
Np-239	1.8095E+03	7.7999E-06	1.9654E+19	7.3277E+18
Pu-238	5.6685E-01	3.3111E-05	8.3782E+19	2.2696E+15
Pu-239	4.9357E-02	7.9408E-04	2.0009E+21	1.9760E+14
Pu-240	9.1682E-02	4.0235E-04	1.0096E+21	3.6709E+14
Pu-241	1.9631E+01	1.9056E-04	4.7619E+20	7.8601E+16
Am-241	1.4190E-02	4.1343E-06	1.0331E+19	5.6808E+13
Cm-242	3.4671E+00	1.0461E-06	2.6032E+18	1.3884E+16
Cm-244	2.4248E-01	2.9972E-06	7.3973E+18	9.7089E+14

Sprayed Drywell Transport Group Inventory:

```
Time (h) =   2.2000    Atmosphere     Sump
Noble gases (atoms)    3.5144E+25  0.0000E+00
Elemental I (atoms)    1.0400E+20  5.7119E+22
Organic I (atoms)      1.7377E+21  0.0000E+00
Aerosols (kg)          1.1065E-01  6.1506E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         4.1808E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.1791E-05
Total I (Ci)                                   5.1360E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2125E+22
Elemental I (atoms)    0.0000E+00  1.5090E+18
Organic I (atoms)      0.0000E+00  6.8388E+17
Aerosols (kg)          0.0000E+00  1.6380E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2125E+22
Elemental I (atoms)    0.0000E+00  1.5090E+18
Organic I (atoms)      0.0000E+00  6.8388E+17
Aerosols (kg)          0.0000E+00  1.6380E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0558E+21
Elemental I (atoms)    0.0000E+00  7.5328E+17
Organic I (atoms)      0.0000E+00  3.4154E+17
Aerosols (kg)          0.0000E+00  8.1771E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.6652E+16
Elemental I (atoms)    0.0000E+00  5.4092E+12
Organic I (atoms)      0.0000E+00  2.6052E+12
Aerosols (kg)          0.0000E+00  5.8718E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.7215E+07
Elemental I (atoms)    0.0000E+00  1.1984E+04
Organic I (atoms)      0.0000E+00  3.5929E+03
Aerosols (kg)          0.0000E+00  1.3484E-17
```

Environment Integral Nuclide Release:

```
Time (h) =   2.2000       Ci           kg          Atoms         Bq
Co-58                  1.4152E-03  4.4505E-11  4.6210E+14  5.2362E+07
Co-60                  1.6948E-03  1.4993E-09  1.5049E+16  6.2709E+07
Kr-85                  2.4539E+02  6.2545E-04  4.4312E+21  9.0793E+12
Kr-85m                 3.0283E+03  3.6798E-07  2.6071E+18  1.1205E+14
Kr-87                  3.2034E+03  1.1309E-07  7.8281E+17  1.1852E+14
Kr-88                  7.1373E+03  5.6920E-07  3.8952E+18  2.6408E+14
Rb-86                  8.5792E-02  1.0544E-09  7.3833E+15  3.1743E+09
Sr-89                  2.5428E+00  8.7524E-08  5.9223E+17  9.4082E+10
Sr-90                  3.4572E-01  2.5345E-06  1.6959E+19  1.2792E+10
Sr-91                  2.8066E+00  7.7424E-10  5.1237E+15  1.0384E+11
```

Sr-92	2.1780E+00	1.7328E-10	1.1342E+15	8.0586E+10
Y-90	5.7829E-03	1.0629E-11	7.1122E+13	2.1397E+08
Y-91	3.2370E-02	1.3200E-09	8.7351E+15	1.1977E+09
Y-92	2.8590E-01	2.9712E-11	1.9449E+14	1.0578E+10
Y-93	3.2052E-02	9.6069E-12	6.2208E+13	1.1859E+09
Zr-95	3.7997E-02	1.7687E-09	1.1212E+16	1.4059E+09
Zr-97	3.4212E-02	1.7896E-11	1.1111E+14	1.2658E+09
Nb-95	3.7928E-02	9.6995E-10	6.1486E+15	1.4033E+09
Mo-99	4.7037E-01	9.8073E-10	5.9657E+15	1.7404E+10
Tc-99m	4.2238E-01	8.0328E-11	4.8863E+14	1.5628E+10
Ru-103	4.1961E-01	1.3002E-08	7.6017E+16	1.5526E+10
Ru-105	2.3686E-01	3.5236E-11	2.0209E+14	8.7638E+09
Ru-106	1.8947E-01	5.6633E-08	3.2175E+17	7.0104E+09
Rh-105	2.8469E-01	3.3729E-10	1.9345E+15	1.0534E+10
Sb-127	4.7822E-01	1.7907E-09	8.4914E+15	1.7694E+10
Sb-129	1.1532E+00	2.0508E-10	9.5738E+14	4.2670E+10
Te-127	4.7782E-01	1.8105E-10	8.5853E+14	1.7679E+10
Te-127m	8.2005E-02	8.6938E-09	4.1224E+16	3.0342E+09
Te-129	1.2639E+00	6.0350E-11	2.8173E+14	4.6763E+10
Te-129m	2.6843E-01	8.9104E-09	4.1597E+16	9.9319E+09
Te-131m	9.7048E-01	1.2170E-09	5.5948E+15	3.5908E+10
Te-132	7.0673E+00	2.3279E-08	1.0620E+17	2.6149E+11
I-131	6.4710E+01	5.2196E-07	2.3995E+18	2.3943E+12
I-132	7.7586E+01	7.5165E-09	3.4292E+16	2.8707E+12
I-133	1.2892E+02	1.1381E-07	5.1531E+17	4.7701E+12
I-134	5.2629E+01	1.9729E-09	8.8663E+15	1.9473E+12
I-135	1.0970E+02	3.1236E-08	1.3934E+17	4.0587E+12
Xe-133	2.3077E+04	1.2329E-04	5.5824E+20	8.5386E+14
Xe-135	1.1140E+04	4.3622E-06	1.9459E+19	4.1218E+14
Cs-134	9.8553E+00	7.6172E-06	3.4233E+19	3.6465E+11
Cs-136	2.8736E+00	3.9208E-08	1.7361E+17	1.0632E+11
Cs-137	7.9384E+00	9.1265E-05	4.0117E+20	2.9372E+11
Ba-139	1.7590E+00	1.0754E-10	4.6592E+14	6.5084E+10
Ba-140	3.7444E+00	5.1146E-08	2.2001E+17	1.3854E+11
La-140	7.6104E-02	1.3692E-10	5.8896E+14	2.8158E+09
La-141	2.6705E-02	4.7220E-12	2.0168E+13	9.8807E+08
La-142	1.7117E-02	1.1957E-12	5.0710E+12	6.3333E+08
Ce-141	8.8428E-02	3.1034E-09	1.3255E+16	3.2718E+09
Ce-143	8.3746E-02	1.2611E-10	5.3108E+14	3.0986E+09
Ce-144	7.1025E-02	2.2269E-08	9.3128E+16	2.6279E+09
Pr-143	3.4199E-02	5.0787E-10	2.1388E+15	1.2654E+09
Nd-147	1.3760E-02	1.7009E-10	6.9681E+14	5.0913E+08
Np-239	1.0120E+00	4.3623E-09	1.0992E+16	3.7444E+10
Pu-238	3.1472E-04	1.8383E-08	4.6515E+16	1.1644E+07
Pu-239	2.7401E-05	4.4084E-07	1.1108E+18	1.0139E+06
Pu-240	5.0902E-05	2.2339E-07	5.6052E+17	1.8834E+06
Pu-241	1.0899E-02	1.0580E-07	2.6438E+17	4.0326E+08
Am-241	7.8781E-06	2.2954E-09	5.7357E+15	2.9149E+05
Cm-242	1.9251E-03	5.8086E-10	1.4455E+15	7.1230E+07
Cm-244	1.3463E-04	1.6641E-09	4.1070E+15	4.9812E+06

Environment Transport Group Inventory:

Time (h) = 2.2000	Total Release	Release Rate/s
Noble gases (atoms)	5.0162E+21	6.3336E+17
Elemental I (atoms)	9.7800E+17	1.2349E+14
Organic I (atoms)	3.2122E+17	4.0558E+13
Aerosols (kg)	1.0293E-04	1.2997E-08

Dose Effective (Ci) I-131 (Thyroid)	8.9860E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1199E+02
Total I (Ci)	4.3354E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2000	Pathway Filtered	Transported

```
Noble gases (atoms)    0.0000E+00  2.8691E+21
Elemental I (atoms)    3.9199E+16  5.3389E+17
Organic I (atoms)      0.0000E+00  1.7860E+17
Aerosols (kg)          5.6214E-04  7.7965E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.8345E+21
Elemental I (atoms)    6.5483E+16  3.7194E+17
Organic I (atoms)      0.0000E+00  1.2132E+17
Aerosols (kg)          9.6315E-05  2.3748E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1284E+20
Elemental I (atoms)    1.2832E+16  7.2887E+16
Organic I (atoms)      0.0000E+00  2.1488E+16
Aerosols (kg)          9.9725E-06  1.2288E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.3549E+18
Elemental I (atoms)    9.5917E+14  1.2041E+14
Organic I (atoms)      3.3277E+14  1.2952E+13
Aerosols (kg)          9.8882E-08  1.5322E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2712E+18
Elemental I (atoms)    0.0000E+00  4.1393E+14
Organic I (atoms)      0.0000E+00  9.1200E+13
Aerosols (kg)          0.0000E+00  4.7961E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.2000     Filtered   Transported
Noble gases (atoms)    3.4252E+18  0.0000E+00
Elemental I (atoms)    4.3146E+14  0.0000E+00
Organic I (atoms)      6.6591E+13  0.0000E+00
Aerosols (kg)          5.2925E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.5560E-02  2.4201E-01  5.7523E-02
Accumulated dose (rem)  1.0589E+00  8.9901E+00  1.4940E+00

Low Population Zone Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9785E-03  1.0509E-02  2.4980E-03
Accumulated dose (rem)  9.7472E-02  8.6790E-01  1.3939E-01

Control Room Doses:

Time (h) =   2.2500    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.7359E-03  2.7553E-01  2.0152E-02
Accumulated dose (rem)  1.0533E-01  1.1310E+01  6.1025E-01
```

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2500	Ci	kg	Atoms	Decay
Co-58	1.2037E+00	3.7854E-08	3.9304E+17	1.0215E+16
Co-60	1.4419E+00	1.2756E-06	1.2803E+19	1.2232E+16
Kr-85	1.7195E+06	4.3828E+00	3.1051E+25	2.4506E+20
Kr-85m	1.9482E+07	2.3673E-03	1.6772E+22	3.0771E+21
Kr-87	1.6371E+07	5.7796E-04	4.0007E+21	3.4321E+21
Kr-88	4.3641E+07	3.4804E-03	2.3817E+22	7.3319E+21
Rb-86	4.2421E+01	5.2135E-07	3.6507E+18	4.8761E+17
Sr-89	2.1625E+03	7.4436E-05	5.0367E+20	1.8356E+19
Sr-90	2.9413E+02	2.1562E-03	1.4428E+22	2.4952E+18
Sr-91	2.2772E+03	6.2819E-07	4.1572E+18	2.0746E+19
Sr-92	1.5639E+03	1.2442E-07	8.1441E+17	1.7111E+19
Y-90	4.0371E+00	7.4203E-09	4.9651E+16	2.7066E+16
Y-91	2.7384E+01	1.1166E-06	7.3896E+18	2.3131E+17
Y-92	1.2476E+02	1.2966E-08	8.4872E+16	4.0005E+17
Y-93	2.6080E+01	7.8169E-09	5.0617E+16	2.3659E+17
Zr-95	3.2318E+01	1.5043E-06	9.5361E+18	2.7428E+17
Zr-97	2.8343E+01	1.4826E-08	9.2048E+16	2.5025E+17
Nb-95	3.2268E+01	8.2520E-07	5.2310E+18	2.7374E+17
Mo-99	3.9748E+02	8.2874E-07	5.0412E+18	3.4065E+18
Tc-99m	3.5883E+02	6.8242E-08	4.1511E+17	3.0439E+18
Ru-103	3.5683E+02	1.1056E-05	6.4643E+19	3.0292E+18
Ru-105	1.8190E+02	2.7060E-08	1.5520E+17	1.7997E+18
Ru-106	1.6119E+02	4.8179E-05	2.7372E+20	1.3675E+18
Rh-105	2.4162E+02	2.8626E-07	1.6418E+18	2.0559E+18
Sb-127	4.0489E+02	1.5162E-06	7.1894E+18	3.4600E+18
Sb-129	8.8309E+02	1.5704E-07	7.3310E+17	8.7754E+18
Te-127	4.0631E+02	1.5396E-07	7.3004E+17	3.4446E+18
Te-127m	6.9768E+01	7.3965E-06	3.5073E+19	5.9185E+17
Te-129	1.0114E+03	4.8294E-08	2.2545E+17	9.2850E+18
Te-129m	2.2836E+02	7.5804E-06	3.5388E+19	1.9373E+18
Te-131m	8.1342E+02	1.0201E-06	4.6894E+18	7.0574E+18
Te-132	5.9784E+03	1.9692E-05	8.9840E+19	5.1155E+19
I-131	5.7828E+04	4.6645E-04	2.1443E+21	2.3804E+20
I-132	7.7208E+04	7.4799E-06	3.4125E+19	3.3973E+20
I-133	1.1246E+05	9.9275E-05	4.4951E+20	4.7989E+20
I-134	2.3455E+04	8.7923E-07	3.9514E+18	2.7337E+20
I-135	9.0351E+04	2.5727E-05	1.1477E+20	4.2043E+20
Xe-133	1.6158E+08	8.6320E-01	3.9085E+24	2.3082E+22
Xe-135	7.8299E+07	3.0661E-02	1.3677E+23	1.1435E+22
Cs-134	4.8792E+03	3.7712E-03	1.6948E+22	5.5980E+19
Cs-136	1.4201E+03	1.9376E-05	8.5798E+19	1.6337E+19
Cs-137	3.9303E+03	4.5185E-02	1.9862E+23	4.5091E+19
Ba-139	1.0624E+03	6.4949E-08	2.8139E+17	1.5040E+19
Ba-140	3.1810E+03	4.3450E-05	1.8690E+20	2.7045E+19
La-140	4.9584E+01	8.9208E-08	3.8373E+17	2.9724E+17
La-141	2.0232E+01	3.5775E-09	1.5280E+16	2.0428E+17
La-142	1.0739E+01	7.5019E-10	3.1815E+15	1.4367E+17
Ce-141	7.5231E+01	2.6403E-06	1.1277E+19	6.3840E+17
Ce-143	7.0288E+01	1.0584E-07	4.4573E+17	6.0858E+17
Ce-144	6.0423E+01	1.8944E-05	7.9226E+19	5.1264E+17
Pr-143	2.9069E+01	4.3168E-07	1.8179E+18	2.4640E+17
Nd-147	1.1687E+01	1.4446E-07	5.9183E+17	9.9398E+16
Np-239	8.5420E+02	3.6820E-06	9.2777E+18	7.3334E+18
Pu-238	2.6776E-01	1.5640E-05	3.9575E+19	2.2714E+15
Pu-239	2.3314E-02	3.7509E-04	9.4512E+20	1.9776E+14
Pu-240	4.3306E-02	1.9005E-04	4.7688E+20	3.6738E+14
Pu-241	9.2726E+00	9.0014E-05	2.2493E+20	7.8663E+16
Am-241	6.7026E-03	1.9529E-06	4.8799E+18	5.6853E+13
Cm-242	1.6377E+00	4.9412E-07	1.2296E+18	1.3895E+16
Cm-244	1.1454E-01	1.4157E-06	3.4942E+18	9.7166E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 2.2500 Atmosphere Sump

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Noble gases (atoms)    3.5141E+25  0.0000E+00
Elemental I (atoms)    4.9082E+19  5.7173E+22
Organic I (atoms)      1.7362E+21  0.0000E+00
Aerosols (kg)          5.2265E-02  6.1564E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.9607E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   3.6648E-05
Total I (Ci)                                   3.6130E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2512E+22
Elemental I (atoms)    0.0000E+00  1.5098E+18
Organic I (atoms)      0.0000E+00  7.0303E+17
Aerosols (kg)          0.0000E+00  1.6389E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2512E+22
Elemental I (atoms)    0.0000E+00  1.5098E+18
Organic I (atoms)      0.0000E+00  7.0303E+17
Aerosols (kg)          0.0000E+00  1.6389E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.2500E+21
Elemental I (atoms)    0.0000E+00  7.5369E+17
Organic I (atoms)      0.0000E+00  3.5114E+17
Aerosols (kg)          0.0000E+00  8.1813E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.8982E+16
Elemental I (atoms)    0.0000E+00  5.4140E+12
Organic I (atoms)      0.0000E+00  2.7204E+12
Aerosols (kg)          0.0000E+00  5.8769E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.1993E+07
Elemental I (atoms)    0.0000E+00  1.2516E+04
Organic I (atoms)      0.0000E+00  3.8560E+03
Aerosols (kg)          0.0000E+00  1.4073E-17

Environment Integral Nuclide Release:

Time (h) =   2.2500       Ci           kg          Atoms         Bq
Co-58                  1.4626E-03  4.5996E-11  4.7758E+14  5.4115E+07
Co-60                  1.7516E-03  1.5496E-09  1.5553E+16  6.4810E+07
Kr-85                  2.5815E+02  6.5798E-04  4.6617E+21  9.5515E+12
Kr-85m                 3.1729E+03  3.8555E-07  2.7316E+18  1.1740E+14
Kr-87                  3.3249E+03  1.1738E-07  8.1250E+17  1.2302E+14
Kr-88                  7.4612E+03  5.9503E-07  4.0720E+18  2.7606E+14
Rb-86                  8.7854E-02  1.0797E-09  7.5607E+15  3.2506E+09
Sr-89                  2.6279E+00  9.0455E-08  6.1206E+17  9.7233E+10
Sr-90                  3.5730E-01  2.6194E-06  1.7527E+19  1.3220E+10
Sr-91                  2.8963E+00  7.9898E-10  5.2874E+15  1.0716E+11
Sr-92                  2.2396E+00  1.7818E-10  1.1663E+15  8.2864E+10
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Y-90	6.0228E-03	1.1070E-11	7.4072E+13	2.2284E+08
Y-91	3.3462E-02	1.3644E-09	9.0296E+15	1.2381E+09
Y-92	2.9905E-01	3.1079E-11	2.0344E+14	1.1065E+10
Y-93	3.3078E-02	9.9147E-12	6.4202E+13	1.2239E+09
Zr-95	3.9270E-02	1.8280E-09	1.1588E+16	1.4530E+09
Zr-97	3.5328E-02	1.8480E-11	1.1473E+14	1.3071E+09
Nb-95	3.9199E-02	1.0024E-09	6.3546E+15	1.4503E+09
Mo-99	4.8602E-01	1.0134E-09	6.1642E+15	1.7983E+10
Tc-99m	4.3651E-01	8.3015E-11	5.0498E+14	1.6151E+10
Ru-103	4.3366E-01	1.3437E-08	7.8562E+16	1.6046E+10
Ru-105	2.4402E-01	3.6302E-11	2.0820E+14	9.0288E+09
Ru-106	1.9582E-01	5.8530E-08	3.3252E+17	7.2452E+09
Rh-105	2.9421E-01	3.4857E-10	1.9992E+15	1.0886E+10
Sb-127	4.9417E-01	1.8504E-09	8.7745E+15	1.8284E+10
Sb-129	1.1880E+00	2.1126E-10	9.8625E+14	4.3957E+10
Te-127	4.9382E-01	1.8712E-10	8.8728E+14	1.8271E+10
Te-127m	8.4752E-02	8.9850E-09	4.2606E+16	3.1358E+09
Te-129	1.3037E+00	6.2251E-11	2.9061E+14	4.8236E+10
Te-129m	2.7742E-01	9.2089E-09	4.2990E+16	1.0265E+10
Te-131m	1.0025E+00	1.2572E-09	5.7795E+15	3.7093E+10
Te-132	7.3027E+00	2.4054E-08	1.0974E+17	2.7020E+11
I-131	6.6511E+01	5.3649E-07	2.4663E+18	2.4609E+12
I-132	7.9563E+01	7.7080E-09	3.5166E+16	2.9438E+12
I-133	1.3242E+02	1.1690E-07	5.2931E+17	4.8997E+12
I-134	5.3360E+01	2.0003E-09	8.9894E+15	1.9743E+12
I-135	1.1251E+02	3.2037E-08	1.4291E+17	4.1629E+12
Xe-133	2.4275E+04	1.2969E-04	5.8721E+20	8.9817E+14
Xe-135	1.1706E+04	4.5840E-06	2.0448E+19	4.3313E+14
Cs-134	1.0092E+01	7.8005E-06	3.5056E+19	3.7342E+11
Cs-136	2.9426E+00	4.0150E-08	1.7778E+17	1.0888E+11
Cs-137	8.1294E+00	9.3461E-05	4.1083E+20	3.0079E+11
Ba-139	1.8009E+00	1.1010E-10	4.7700E+14	6.6632E+10
Ba-140	3.8696E+00	5.2857E-08	2.2737E+17	1.4318E+11
La-140	7.9442E-02	1.4293E-10	6.1480E+14	2.9394E+09
La-141	2.7501E-02	4.8629E-12	2.0769E+13	1.0175E+09
La-142	1.7540E-02	1.2253E-12	5.1963E+12	6.4897E+08
Ce-141	9.1389E-02	3.2074E-09	1.3699E+16	3.3814E+09
Ce-143	8.6514E-02	1.3028E-10	5.4863E+14	3.2010E+09
Ce-144	7.3405E-02	2.3015E-08	9.6248E+16	2.7160E+09
Pr-143	3.5346E-02	5.2490E-10	2.2105E+15	1.3078E+09
Nd-147	1.4220E-02	1.7578E-10	7.2012E+14	5.2615E+08
Np-239	1.0456E+00	4.5073E-09	1.1357E+16	3.8689E+10
Pu-238	3.2526E-04	1.8999E-08	4.8074E+16	1.2035E+07
Pu-239	2.8319E-05	4.5561E-07	1.1480E+18	1.0478E+06
Pu-240	5.2607E-05	2.3087E-07	5.7930E+17	1.9465E+06
Pu-241	1.1264E-02	1.0935E-07	2.7324E+17	4.1677E+08
Am-241	8.1421E-06	2.3723E-09	5.9279E+15	3.0126E+05
Cm-242	1.9896E-03	6.0032E-10	1.4939E+15	7.3616E+07
Cm-244	1.3914E-04	1.7198E-09	4.2446E+15	5.1481E+06

Environment Transport Group Inventory:

Time (h) = 2.2500	Total Release	Release Rate/s
Noble gases (atoms)	5.2770E+21	6.5148E+17
Elemental I (atoms)	1.0041E+18	1.2397E+14
Organic I (atoms)	3.3561E+17	4.1433E+13
Aerosols (kg)	1.0545E-04	1.3018E-08

Dose Effective (Ci) I-131 (Thyroid)	9.2338E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.1505E+02
Total I (Ci)	4.4437E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.2500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0066E+21

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Elemental I (atoms)    4.0111E+16  5.4631E+17
Organic I (atoms)      0.0000E+00  1.8599E+17
Aerosols (kg)          5.7494E-04  7.9740E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9385E+21
Elemental I (atoms)    6.7446E+16  3.8309E+17
Organic I (atoms)      0.0000E+00  1.2719E+17
Aerosols (kg)          9.9127E-05  2.4442E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3212E+20
Elemental I (atoms)    1.3287E+16  7.5471E+16
Organic I (atoms)      0.0000E+00  2.2628E+16
Aerosols (kg)          1.0319E-05  1.2714E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.5897E+18
Elemental I (atoms)    9.8249E+14  1.2065E+14
Organic I (atoms)      3.4561E+14  1.3082E+13
Aerosols (kg)          1.0112E-07  1.5345E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3227E+18
Elemental I (atoms)    0.0000E+00  4.1909E+14
Organic I (atoms)      0.0000E+00  9.4046E+13
Aerosols (kg)          0.0000E+00  4.8457E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.2500     Filtered   Transported
Noble gases (atoms)    3.6862E+18  0.0000E+00
Elemental I (atoms)    4.3940E+14  0.0000E+00
Organic I (atoms)      6.9589E+13  0.0000E+00
Aerosols (kg)          5.3753E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.6419E-02  2.4170E-01  5.8339E-02
Accumulated dose (rem)  1.1053E+00  9.2318E+00  1.5524E+00

Low Population Zone Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0158E-03  1.0496E-02  2.5335E-03
Accumulated dose (rem)  9.9488E-02  8.7840E-01  1.4192E-01

Control Room Doses:

Time (h) =   2.3000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.7146E-03  2.6882E-01  1.9817E-02
Accumulated dose (rem)  1.1205E-01  1.1579E+01  6.3007E-01
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Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	5.6855E-01	1.7880E-08	1.8565E+17	1.0219E+16
Co-60	6.8109E-01	6.0253E-07	6.0476E+18	1.2237E+16
Kr-85	1.7195E+06	4.3826E+00	3.1050E+25	2.5651E+20
Kr-85m	1.9331E+07	2.3490E-03	1.6642E+22	3.2063E+21
Kr-87	1.5931E+07	5.6241E-04	3.8930E+21	3.5397E+21
Kr-88	4.3111E+07	3.4381E-03	2.3528E+22	7.6207E+21
Rb-86	2.0036E+01	2.4624E-07	1.7243E+18	4.8774E+17
Sr-89	1.0214E+03	3.5159E-05	2.3790E+20	1.8362E+19
Sr-90	1.3893E+02	1.0185E-03	6.8151E+21	2.4961E+18
Sr-91	1.0717E+03	2.9565E-07	1.9565E+18	2.0753E+19
Sr-92	7.2931E+02	5.8022E-08	3.7980E+17	1.7116E+19
Y-90	1.9811E+00	3.6414E-09	2.4365E+16	2.7079E+16
Y-91	1.2946E+01	5.2789E-07	3.4934E+18	2.3140E+17
Y-92	6.5543E+01	6.8116E-09	4.4587E+16	4.0044E+17
Y-93	1.2277E+01	3.6797E-09	2.3827E+16	2.3667E+17
Zr-95	1.5265E+01	7.1056E-07	4.5043E+18	2.7438E+17
Zr-97	1.3361E+01	6.9890E-09	4.3390E+16	2.5034E+17
Nb-95	1.5242E+01	3.8979E-07	2.4709E+18	2.7384E+17
Mo-99	1.8765E+02	3.9125E-07	2.3800E+18	3.4078E+18
Tc-99m	1.6947E+02	3.2230E-08	1.9605E+17	3.0451E+18
Ru-103	1.6854E+02	5.2222E-06	3.0533E+19	3.0304E+18
Ru-105	8.5252E+01	1.2683E-08	7.2739E+16	1.8003E+18
Ru-106	7.6137E+01	2.2758E-05	1.2929E+20	1.3680E+18
Rh-105	1.1410E+02	1.3518E-07	7.7531E+17	2.0566E+18
Sb-127	1.9118E+02	7.1590E-07	3.3947E+18	3.4612E+18
Sb-129	4.1380E+02	7.3585E-08	3.4352E+17	8.7781E+18
Te-127	1.9191E+02	7.2719E-08	3.4482E+17	3.4459E+18
Te-127m	3.2955E+01	3.4938E-06	1.6567E+19	5.9207E+17
Te-129	4.7532E+02	2.2697E-08	1.0596E+17	9.2882E+18
Te-129m	1.0787E+02	3.5806E-06	1.6715E+19	1.9381E+18
Te-131m	3.8378E+02	4.8128E-07	2.2125E+18	7.0599E+18
Te-132	2.8227E+03	9.2975E-06	4.2417E+19	5.1174E+19
I-131	4.6593E+04	3.7583E-04	1.7277E+21	2.3835E+20
I-132	6.1331E+04	5.9417E-06	2.7107E+19	3.4014E+20
I-133	9.0476E+04	7.9869E-05	3.6164E+20	4.8050E+20
I-134	1.8169E+04	6.8108E-07	3.0608E+18	2.7349E+20
I-135	7.2430E+04	2.0624E-05	9.2002E+19	4.2091E+20
Xe-133	1.6153E+08	8.6294E-01	3.9073E+24	2.4158E+22
Xe-135	7.7999E+07	3.0543E-02	1.3625E+23	1.1956E+22
Cs-134	2.3047E+03	1.7813E-03	8.0055E+21	5.5996E+19
Cs-136	6.7071E+02	9.1513E-06	4.0522E+19	1.6341E+19
Cs-137	1.8565E+03	2.1344E-02	9.3820E+22	4.5103E+19
Ba-139	4.8935E+02	2.9917E-08	1.2962E+17	1.5043E+19
Ba-140	1.5024E+03	2.0522E-05	8.8274E+19	2.7055E+19
La-140	2.4694E+01	4.4428E-08	1.9111E+17	2.9739E+17
La-141	9.4728E+00	1.6750E-09	7.1540E+15	2.0435E+17
La-142	4.9598E+00	3.4648E-10	1.4694E+15	1.4371E+17
Ce-141	3.5534E+01	1.2471E-06	5.3264E+18	6.3863E+17
Ce-143	3.3166E+01	4.9943E-08	2.1032E+17	6.0881E+17
Ce-144	2.8541E+01	8.9484E-06	3.7422E+19	5.1283E+17
Pr-143	1.3733E+01	2.0394E-07	8.5883E+17	2.4649E+17
Nd-147	5.5197E+00	6.8229E-08	2.7951E+17	9.9435E+16
Np-239	4.0324E+02	1.7382E-06	4.3797E+18	7.3360E+18
Pu-238	1.2648E-01	7.3877E-06	1.8693E+19	2.2723E+15
Pu-239	1.1013E-02	1.7718E-04	4.4643E+20	1.9783E+14
Pu-240	2.0456E-02	8.9771E-05	2.2526E+20	3.6752E+14
Pu-241	4.3799E+00	4.2518E-05	1.0625E+20	7.8692E+16
Am-241	3.1661E-03	9.2247E-07	2.3051E+18	5.6874E+13
Cm-242	7.7355E-01	2.3340E-07	5.8081E+17	1.3900E+16
Cm-244	5.4102E-02	6.6873E-07	1.6505E+18	9.7202E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3000	Atmosphere	Sump
Noble gases (atoms)	3.5138E+25	0.0000E+00

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Elemental I (atoms)    2.3164E+19  5.7199E+22
Organic I (atoms)      1.7346E+21  0.0000E+00
Aerosols (kg)          2.4687E-02  6.1591E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.3841E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.9487E-05
Total I (Ci)                                   2.8900E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2900E+22
Elemental I (atoms)    0.0000E+00  1.5102E+18
Organic I (atoms)      0.0000E+00  7.2216E+17
Aerosols (kg)          0.0000E+00  1.6393E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.2900E+22
Elemental I (atoms)    0.0000E+00  1.5102E+18
Organic I (atoms)      0.0000E+00  7.2216E+17
Aerosols (kg)          0.0000E+00  1.6393E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.4442E+21
Elemental I (atoms)    0.0000E+00  7.5387E+17
Organic I (atoms)      0.0000E+00  3.6074E+17
Aerosols (kg)          0.0000E+00  8.1834E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1313E+16
Elemental I (atoms)    0.0000E+00  5.4163E+12
Organic I (atoms)      0.0000E+00  2.8356E+12
Aerosols (kg)          0.0000E+00  5.8793E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.7004E+07
Elemental I (atoms)    0.0000E+00  1.3047E+04
Organic I (atoms)      0.0000E+00  4.1303E+03
Aerosols (kg)          0.0000E+00  1.4662E-17
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3000       Ci           kg          Atoms         Bq
Co-58                  1.5097E-03  4.7476E-11  4.9295E+14  5.5857E+07
Co-60                  1.8080E-03  1.5995E-09  1.6054E+16  6.6897E+07
Kr-85                  2.7131E+02  6.9153E-04  4.8994E+21  1.0039E+13
Kr-85m                 3.3209E+03  4.0353E-07  2.8590E+18  1.2287E+14
Kr-87                  3.4468E+03  1.2169E-07  8.4231E+17  1.2753E+14
Kr-88                  7.7912E+03  6.2135E-07  4.2521E+18  2.8828E+14
Rb-86                  8.9898E-02  1.1048E-09  7.7367E+15  3.3262E+09
Sr-89                  2.7125E+00  9.3366E-08  6.3176E+17  1.0036E+11
Sr-90                  3.6880E-01  2.7037E-06  1.8091E+19  1.3646E+10
Sr-91                  2.9850E+00  8.2346E-10  5.4494E+15  1.1045E+11
Sr-92                  2.3000E+00  1.8298E-10  1.1978E+15  8.5098E+10
Y-90                   6.2668E-03  1.1519E-11  7.7073E+13  2.3187E+08
```

Y-91	3.4546E-02	1.4087E-09	9.3222E+15	1.2782E+09
Y-92	3.1255E-01	3.2482E-11	2.1262E+14	1.1565E+10
Y-93	3.4095E-02	1.0219E-11	6.6174E+13	1.2615E+09
Zr-95	4.0534E-02	1.8868E-09	1.1961E+16	1.4997E+09
Zr-97	3.6434E-02	1.9059E-11	1.1832E+14	1.3481E+09
Nb-95	4.0461E-02	1.0347E-09	6.5591E+15	1.4970E+09
Mo-99	5.0156E-01	1.0458E-09	6.3613E+15	1.8558E+10
Tc-99m	4.5055E-01	8.5684E-11	5.2121E+14	1.6670E+10
Ru-103	4.4762E-01	1.3869E-08	8.1091E+16	1.6562E+10
Ru-105	2.5108E-01	3.7352E-11	2.1423E+14	9.2900E+09
Ru-106	2.0212E-01	6.0414E-08	3.4323E+17	7.4785E+09
Rh-105	3.0366E-01	3.5976E-10	2.0634E+15	1.1235E+10
Sb-127	5.1000E-01	1.9097E-09	9.0556E+15	1.8870E+10
Sb-129	1.2223E+00	2.1736E-10	1.0147E+15	4.5224E+10
Te-127	5.0971E-01	1.9314E-10	9.1583E+14	1.8859E+10
Te-127m	8.7481E-02	9.2743E-09	4.3977E+16	3.2368E+09
Te-129	1.3430E+00	6.4131E-11	2.9938E+14	4.9693E+10
Te-129m	2.8635E-01	9.5054E-09	4.4374E+16	1.0595E+10
Te-131m	1.0343E+00	1.2971E-09	5.9627E+15	3.8269E+10
Te-132	7.5364E+00	2.4824E-08	1.1325E+17	2.7885E+11
I-131	6.8311E+01	5.5101E-07	2.5330E+18	2.5275E+12
I-132	8.1519E+01	7.8975E-09	3.6030E+16	3.0162E+12
I-133	1.3592E+02	1.1999E-07	5.4329E+17	5.0291E+12
I-134	5.4062E+01	2.0266E-09	9.1077E+15	2.0003E+12
I-135	1.1531E+02	3.2835E-08	1.4647E+17	4.2665E+12
Xe-133	2.5510E+04	1.3629E-04	6.1709E+20	9.4387E+14
Xe-135	1.2289E+04	4.8121E-06	2.1466E+19	4.5469E+14
Cs-134	1.0328E+01	7.9822E-06	3.5873E+19	3.8212E+11
Cs-136	3.0111E+00	4.1084E-08	1.8192E+17	1.1141E+11
Cs-137	8.3189E+00	9.5639E-05	4.2040E+20	3.0780E+11
Ba-139	1.8414E+00	1.1257E-10	4.8773E+14	6.8131E+10
Ba-140	3.9940E+00	5.4556E-08	2.3468E+17	1.4778E+11
La-140	8.2857E-02	1.4907E-10	6.4123E+14	3.0657E+09
La-141	2.8286E-02	5.0016E-12	2.1362E+13	1.0466E+09
La-142	1.7950E-02	1.2540E-12	5.3180E+12	6.6417E+08
Ce-141	9.4331E-02	3.3106E-09	1.4140E+16	3.4902E+09
Ce-143	8.9260E-02	1.3441E-10	5.6604E+14	3.3026E+09
Ce-144	7.5768E-02	2.3755E-08	9.9346E+16	2.8034E+09
Pr-143	3.6486E-02	5.4183E-10	2.2818E+15	1.3500E+09
Nd-147	1.4677E-02	1.8143E-10	7.4326E+14	5.4306E+08
Np-239	1.0790E+00	4.6512E-09	1.1720E+16	3.9924E+10
Pu-238	3.3573E-04	1.9611E-08	4.9622E+16	1.2422E+07
Pu-239	2.9231E-05	4.7028E-07	1.1850E+18	1.0816E+06
Pu-240	5.4301E-05	2.3830E-07	5.9795E+17	2.0091E+06
Pu-241	1.1627E-02	1.1287E-07	2.8204E+17	4.3019E+08
Am-241	8.4042E-06	2.4487E-09	6.1188E+15	3.1096E+05
Cm-242	2.0537E-03	6.1964E-10	1.5420E+15	7.5986E+07
Cm-244	1.4362E-04	1.7752E-09	4.3813E+15	5.3138E+06

Environment Transport Group Inventory:

Time (h) = 2.3000	Total Release	Release Rate/s	
Noble gases (atoms)	5.5459E+21	6.6980E+17	
Elemental I (atoms)	1.0302E+18	1.2442E+14	
Organic I (atoms)	3.5038E+17	4.2317E+13	
Aerosols (kg)	1.0794E-04	1.3036E-08	
Dose Effective (Ci) I-131 (Thyroid)			9.4814E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			1.1810E+02
Total I (Ci)			4.5512E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1477E+21
Elemental I (atoms)	4.1010E+16	5.5855E+17

```
Organic I (atoms)      0.0000E+00  1.9355E+17
Aerosols (kg)          5.8757E-04  8.1491E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.0463E+21
Elemental I (atoms)    6.9419E+16  3.9430E+17
Organic I (atoms)      0.0000E+00  1.3324E+17
Aerosols (kg)          1.0195E-04  2.5139E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5221E+20
Elemental I (atoms)    1.3749E+16  7.8093E+16
Organic I (atoms)      0.0000E+00  2.3807E+16
Aerosols (kg)          1.0670E-05  1.3147E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.8319E+18
Elemental I (atoms)    1.0057E+15  1.2088E+14
Organic I (atoms)      3.5879E+14  1.3215E+13
Aerosols (kg)          1.0334E-07  1.5367E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3759E+18
Elemental I (atoms)    0.0000E+00  4.2424E+14
Organic I (atoms)      0.0000E+00  9.6967E+13
Aerosols (kg)          0.0000E+00  4.8950E-08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) =   2.3000     Filtered   Transported
Noble gases (atoms)    3.9495E+18  0.0000E+00
Elemental I (atoms)    4.4714E+14  0.0000E+00
Organic I (atoms)      7.2587E+13  0.0000E+00
Aerosols (kg)          5.4558E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.7249E-02  2.4126E-01  5.9121E-02
Accumulated dose (rem)  1.1526E+00  9.4731E+00  1.6115E+00

Low Population Zone Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.0519E-03  1.0477E-02  2.5674E-03
Accumulated dose (rem)  1.0154E-01  8.8888E-01  1.4449E-01

Control Room Doses:

Time (h) =   2.3500    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.7064E-03  2.6262E-01  1.9517E-02
Accumulated dose (rem)  1.1875E-01  1.1842E+01  6.4959E-01

Sprayed Drywell Compartment Nuclide Inventory:
```

Time (h) = 2.3500	Ci	kg	Atoms	Decay
Co-58	2.6855E-01	8.4456E-09	8.7690E+16	1.0221E+16
Co-60	3.2172E-01	2.8461E-07	2.8566E+18	1.2239E+16
Kr-85	1.7194E+06	4.3825E+00	3.1050E+25	2.6797E+20
Kr-85m	1.9181E+07	2.3308E-03	1.6514E+22	3.3346E+21
Kr-87	1.5502E+07	5.4727E-04	3.7882E+21	3.6443E+21
Kr-88	4.2586E+07	3.3963E-03	2.3242E+22	7.9061E+21
Rb-86	9.4633E+00	1.1630E-07	8.1442E+17	4.8781E+17
Sr-89	4.8247E+02	1.6607E-05	1.1237E+20	1.8366E+19
Sr-90	6.5625E+01	4.8110E-04	3.2191E+21	2.4965E+18
Sr-91	5.0439E+02	1.3914E-07	9.2081E+17	2.0757E+19
Sr-92	3.4011E+02	2.7059E-08	1.7712E+17	1.7118E+19
Y-90	9.7083E-01	1.7844E-09	1.1940E+16	2.7085E+16
Y-91	6.1201E+00	2.4956E-07	1.6515E+18	2.3144E+17
Y-92	3.4009E+01	3.5344E-09	2.3135E+16	4.0064E+17
Y-93	5.7790E+00	1.7322E-09	1.1216E+16	2.3671E+17
Zr-95	7.2103E+00	3.3563E-07	2.1276E+18	2.7443E+17
Zr-97	6.2980E+00	3.2945E-09	2.0454E+16	2.5038E+17
Nb-95	7.1996E+00	1.8412E-07	1.1671E+18	2.7389E+17
Mo-99	8.8591E+01	1.8471E-07	1.1236E+18	3.4083E+18
Tc-99m	8.0041E+01	1.5222E-08	9.2595E+16	3.0456E+18
Ru-103	7.9609E+01	2.4667E-06	1.4422E+19	3.0309E+18
Ru-105	3.9956E+01	5.9441E-09	3.4091E+16	1.8006E+18
Ru-106	3.5964E+01	1.0750E-05	6.1071E+19	1.3683E+18
Rh-105	5.3882E+01	6.3837E-08	3.6613E+17	2.0570E+18
Sb-127	9.0272E+01	3.3803E-07	1.6029E+18	3.4619E+18
Sb-129	1.9390E+02	3.4480E-08	1.6096E+17	8.7794E+18
Te-127	9.0646E+01	3.4347E-08	1.6287E+17	3.4465E+18
Te-127m	1.5567E+01	1.6503E-06	7.8254E+18	5.9218E+17
Te-129	2.2338E+02	1.0666E-08	4.9795E+16	9.2897E+18
Te-129m	5.0951E+01	1.6913E-06	7.8955E+18	1.9384E+18
Te-131m	1.8107E+02	2.2707E-07	1.0439E+18	7.0611E+18
Te-132	1.3327E+03	4.3898E-06	2.0027E+19	5.1183E+19
I-131	4.1283E+04	3.3300E-04	1.5308E+21	2.3862E+20
I-132	5.3559E+04	5.1887E-06	2.3672E+19	3.4050E+20
I-133	8.0046E+04	7.0661E-05	3.1995E+20	4.8103E+20
I-134	1.5477E+04	5.8017E-07	2.6074E+18	2.7360E+20
I-135	6.3851E+04	1.8182E-05	8.1105E+19	4.2134E+20
Xe-133	1.6148E+08	8.6268E-01	3.9061E+24	2.5234E+22
Xe-135	7.7700E+07	3.0426E-02	1.3573E+23	1.2474E+22
Cs-134	1.0886E+03	8.4141E-04	3.7814E+21	5.6003E+19
Cs-136	3.1678E+02	4.3222E-06	1.9139E+19	1.6343E+19
Cs-137	8.7692E+02	1.0082E-02	4.4316E+22	4.5109E+19
Ba-139	2.2541E+02	1.3781E-08	5.9704E+16	1.5044E+19
Ba-140	7.0957E+02	9.6924E-06	4.1692E+19	2.7059E+19
La-140	1.2265E+01	2.2066E-08	9.4919E+16	2.9747E+17
La-141	4.4352E+00	7.8425E-10	3.3495E+15	2.0438E+17
La-142	2.2907E+00	1.6002E-10	6.7864E+14	1.4372E+17
Ce-141	1.6784E+01	5.8905E-07	2.5159E+18	6.3875E+17
Ce-143	1.5650E+01	2.3566E-08	9.9243E+16	6.0891E+17
Ce-144	1.3481E+01	4.2268E-06	1.7676E+19	5.1292E+17
Pr-143	6.4877E+00	9.6345E-08	4.0573E+17	2.4653E+17
Nd-147	2.6069E+00	3.2224E-08	1.3201E+17	9.9452E+16
Np-239	1.9035E+02	8.2052E-07	2.0675E+18	7.3373E+18
Pu-238	5.9741E-02	3.4896E-06	8.8298E+18	2.2727E+15
Pu-239	5.2019E-03	8.3690E-05	2.1088E+20	1.9787E+14
Pu-240	9.6624E-03	4.2404E-05	1.0640E+20	3.6758E+14
Pu-241	2.0689E+00	2.0084E-05	5.0185E+19	7.8706E+16
Am-241	1.4955E-03	4.3574E-07	1.0888E+18	5.6884E+13
Cm-242	3.6539E-01	1.1025E-07	2.7435E+17	1.3903E+16
Cm-244	2.5555E-02	3.1588E-07	7.7961E+17	9.7219E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.3500	Atmosphere	Sump
Noble gases (atoms)	3.5135E+25	0.0000E+00
Elemental I (atoms)	1.0932E+19	5.7211E+22

```
Organic I (atoms)      1.7331E+21  0.0000E+00
Aerosols (kg)          1.1661E-02  6.1604E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         2.1111E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.6090E-05
Total I (Ci)                                   2.5422E+05
```

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3287E+22
Elemental I (atoms)    0.0000E+00  1.5103E+18
Organic I (atoms)      0.0000E+00  7.4128E+17
Aerosols (kg)          0.0000E+00  1.6395E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3287E+22
Elemental I (atoms)    0.0000E+00  1.5103E+18
Organic I (atoms)      0.0000E+00  7.4128E+17
Aerosols (kg)          0.0000E+00  1.6395E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.6384E+21
Elemental I (atoms)    0.0000E+00  7.5396E+17
Organic I (atoms)      0.0000E+00  3.7032E+17
Aerosols (kg)          0.0000E+00  8.1843E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.3643E+16
Elemental I (atoms)    0.0000E+00  5.4173E+12
Organic I (atoms)      0.0000E+00  2.9506E+12
Aerosols (kg)          0.0000E+00  5.8805E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.2248E+07
Elemental I (atoms)    0.0000E+00  1.3578E+04
Organic I (atoms)      0.0000E+00  4.4159E+03
Aerosols (kg)          0.0000E+00  1.5251E-17
```

Environment Integral Nuclide Release:

```
Time (h) =   2.3500       Ci           kg         Atoms         Bq
Co-58                  1.5564E-03  4.8946E-11  5.0820E+14  5.7586E+07
Co-60                  1.8640E-03  1.6490E-09  1.6551E+16  6.8968E+07
Kr-85                  2.8488E+02  7.2611E-04  5.1444E+21  1.0540E+13
Kr-85m                 3.4722E+03  4.2192E-07  2.9893E+18  1.2847E+14
Kr-87                  3.5691E+03  1.2600E-07  8.7220E+17  1.3206E+14
Kr-88                  8.1272E+03  6.4815E-07  4.4355E+18  3.0071E+14
Rb-86                  9.1925E-02  1.1298E-09  7.9111E+15  3.4012E+09
Sr-89                  2.7964E+00  9.6256E-08  6.5131E+17  1.0347E+11
Sr-90                  3.8022E-01  2.7874E-06  1.8651E+19  1.4068E+10
Sr-91                  3.0728E+00  8.4767E-10  5.6096E+15  1.1369E+11
Sr-92                  2.3591E+00  1.8769E-10  1.2286E+15  8.7288E+10
Y-90                   6.5148E-03  1.1974E-11  8.0123E+13  2.4105E+08
Y-91                   3.5624E-02  1.4526E-09  9.6130E+15  1.3181E+09
```

Y-92	3.2638E-01	3.3919E-11	2.2203E+14	1.2076E+10
Y-93	3.5100E-02	1.0521E-11	6.8126E+13	1.2987E+09
Zr-95	4.1788E-02	1.9452E-09	1.2331E+16	1.5462E+09
Zr-97	3.7530E-02	1.9632E-11	1.2188E+14	1.3886E+09
Nb-95	4.1713E-02	1.0667E-09	6.7622E+15	1.5434E+09
Mo-99	5.1697E-01	1.0779E-09	6.5568E+15	1.9128E+10
Tc-99m	4.6447E-01	8.8332E-11	5.3732E+14	1.7185E+10
Ru-103	4.6147E-01	1.4299E-08	8.3600E+16	1.7074E+10
Ru-105	2.5803E-01	3.8386E-11	2.2016E+14	9.5472E+09
Ru-106	2.0838E-01	6.2285E-08	3.5386E+17	7.7100E+09
Rh-105	3.1303E-01	3.7087E-10	2.1271E+15	1.1582E+10
Sb-127	5.2570E-01	1.9685E-09	9.3345E+15	1.9451E+10
Sb-129	1.2560E+00	2.2336E-10	1.0427E+15	4.6473E+10
Te-127	5.2548E-01	1.9911E-10	9.4417E+14	1.9443E+10
Te-127m	9.0189E-02	9.5614E-09	4.5339E+16	3.3370E+09
Te-129	1.3819E+00	6.5987E-11	3.0805E+14	5.1131E+10
Te-129m	2.9522E-01	9.7996E-09	4.5748E+16	1.0923E+10
Te-131m	1.0658E+00	1.3366E-09	6.1443E+15	3.9434E+10
Te-132	7.7683E+00	2.5588E-08	1.1674E+17	2.8743E+11
I-131	7.0109E+01	5.6551E-07	2.5997E+18	2.5940E+12
I-132	8.3451E+01	8.0847E-09	3.6884E+16	3.0877E+12
I-133	1.3941E+02	1.2307E-07	5.5723E+17	5.1582E+12
I-134	5.4737E+01	2.0519E-09	9.2213E+15	2.0253E+12
I-135	1.1809E+02	3.3627E-08	1.5000E+17	4.3694E+12
Xe-133	2.6783E+04	1.4308E-04	6.4787E+20	9.9096E+14
Xe-135	1.2887E+04	5.0465E-06	2.2512E+19	4.7683E+14
Cs-134	1.0561E+01	8.1624E-06	3.6683E+19	3.9075E+11
Cs-136	3.0789E+00	4.2009E-08	1.8602E+17	1.1392E+11
Cs-137	8.5067E+00	9.7798E-05	4.2989E+20	3.1475E+11
Ba-139	1.8806E+00	1.1497E-10	4.9812E+14	6.9582E+10
Ba-140	4.1175E+00	5.6243E-08	2.4193E+17	1.5235E+11
La-140	8.6345E-02	1.5534E-10	6.6822E+14	3.1947E+09
La-141	2.9057E-02	5.1380E-12	2.1945E+13	1.0751E+09
La-142	1.8349E-02	1.2818E-12	5.4360E+12	6.7891E+08
Ce-141	9.7250E-02	3.4131E-09	1.4577E+16	3.5983E+09
Ce-143	9.1983E-02	1.3851E-10	5.8331E+14	3.4034E+09
Ce-144	7.8113E-02	2.4491E-08	1.0242E+17	2.8902E+09
Pr-143	3.7617E-02	5.5862E-10	2.3525E+15	1.3918E+09
Nd-147	1.5131E-02	1.8704E-10	7.6623E+14	5.5985E+08
Np-239	1.1122E+00	4.7939E-09	1.2079E+16	4.1150E+10
Pu-238	3.4613E-04	2.0218E-08	5.1158E+16	1.2807E+07
Pu-239	3.0136E-05	4.8485E-07	1.2217E+18	1.1150E+06
Pu-240	5.5982E-05	2.4568E-07	6.1647E+17	2.0713E+06
Pu-241	1.1987E-02	1.1636E-07	2.9077E+17	4.4351E+08
Am-241	8.6645E-06	2.5245E-09	6.3082E+15	3.2059E+05
Cm-242	2.1172E-03	6.3882E-10	1.5897E+15	7.8338E+07
Cm-244	1.4806E-04	1.8301E-09	4.5169E+15	5.4783E+06

Environment Transport Group Inventory:

Time (h) = 2.3500	Total Release	Release Rate/s
Noble gases (atoms)	5.8231E+21	6.8831E+17
Elemental I (atoms)	1.0561E+18	1.2484E+14
Organic I (atoms)	3.6553E+17	4.3207E+13
Aerosols (kg)	1.1041E-04	1.3050E-08

Dose Effective (Ci) I-131 (Thyroid)	9.7285E+01
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	1.2114E+02
Total I (Ci)	4.6580E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 2.3500	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2923E+21
Elemental I (atoms)	4.1895E+16	5.7060E+17
Organic I (atoms)	0.0000E+00	2.0127E+17

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Aerosols (kg)          6.0001E-04  8.3217E-05

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1579E+21
Elemental I (atoms)    7.1400E+16  4.0555E+17
Organic I (atoms)      0.0000E+00  1.3946E+17
Aerosols (kg)          1.0479E-04  2.5839E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.7313E+20
Elemental I (atoms)    1.4217E+16  8.0752E+16
Organic I (atoms)      0.0000E+00  2.5028E+16
Aerosols (kg)          1.1026E-05  1.3586E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0815E+18
Elemental I (atoms)    1.0289E+15  1.2112E+14
Organic I (atoms)      3.7231E+14  1.3351E+13
Aerosols (kg)          1.0554E-07  1.5390E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.4306E+18
Elemental I (atoms)    0.0000E+00  4.2937E+14
Organic I (atoms)      0.0000E+00  9.9964E+13
Aerosols (kg)          0.0000E+00  4.9437E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =   2.3500     Filtered   Transported
Noble gases (atoms)    4.2157E+18  0.0000E+00
Elemental I (atoms)    4.5469E+14  0.0000E+00
Organic I (atoms)      7.5589E+13  0.0000E+00
Aerosols (kg)          5.5339E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8608E+00  7.4079E+00  2.2109E+00
Accumulated dose (rem)  3.0134E+00  1.6881E+01  3.8224E+00

Low Population Zone Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        8.0808E-02  3.2170E-01  9.6012E-02
Accumulated dose (rem)  1.8235E-01  1.2106E+00  2.4050E-01

Control Room Doses:

Time (h) =   4.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.4854E-01  6.8486E+00  5.7876E-01
Accumulated dose (rem)  3.6729E-01  1.8690E+01  1.2283E+00

Sprayed Drywell Compartment Nuclide Inventory:
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Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	4.7806E-12	1.5034E-19	1.5610E+06	1.0222E+16
Co-60	5.7308E-12	5.0697E-18	5.0884E+07	1.2240E+16
Kr-85	1.7179E+06	4.3786E+00	3.1022E+25	6.4568E+20
Kr-85m	1.4846E+07	1.8040E-03	1.2781E+22	7.0534E+21
Kr-87	6.3008E+06	2.2244E-04	1.5398E+21	5.8905E+21
Kr-88	2.8443E+07	2.2684E-03	1.5523E+22	1.5607E+22
Rb-86	1.6815E-10	2.0665E-18	1.4471E+07	4.8785E+17
Sr-89	8.5864E-09	2.9555E-16	1.9998E+09	1.8368E+19
Sr-90	1.1690E-09	8.5700E-15	5.7344E+10	2.4968E+18
Sr-91	7.9658E-09	2.1975E-18	1.4542E+07	2.0759E+19
Sr-92	3.9727E-09	3.1606E-19	2.0689E+06	1.7120E+19
Y-90	3.7704E-11	6.9300E-20	4.6370E+05	2.7089E+16
Y-91	1.1183E-10	4.5599E-18	3.0176E+07	2.3146E+17
Y-92	1.8008E-09	1.8715E-19	1.2250E+06	4.0079E+17
Y-93	9.1923E-11	2.7552E-20	1.7841E+05	2.3673E+17
Zr-95	1.2835E-10	5.9743E-18	3.7872E+07	2.7446E+17
Zr-97	1.0485E-10	5.4846E-20	3.4051E+05	2.5041E+17
Nb-95	1.2825E-10	3.2797E-18	2.0791E+07	2.7392E+17
Mo-99	1.5510E-09	3.2339E-18	1.9671E+07	3.4087E+18
Tc-99m	1.4186E-09	2.6979E-19	1.6411E+06	3.0459E+18
Ru-103	1.4164E-09	4.3886E-17	2.5659E+08	3.0312E+18
Ru-105	5.5013E-10	8.1840E-20	4.6938E+05	1.8007E+18
Ru-106	6.4055E-10	1.9146E-16	1.0878E+09	1.3684E+18
Rh-105	9.4926E-10	1.1246E-18	6.4502E+06	2.0572E+18
Sb-127	1.5883E-09	5.9474E-18	2.8202E+07	3.4622E+18
Sb-129	2.6506E-09	4.7135E-19	2.2004E+06	8.7802E+18
Te-127	1.6116E-09	6.1067E-19	2.8957E+06	3.4469E+18
Te-127m	2.7730E-10	2.9398E-17	1.3940E+08	5.9224E+17
Te-129	3.3420E-09	1.5958E-19	7.4497E+05	9.2905E+18
Te-129m	9.0727E-10	3.0117E-17	1.4059E+08	1.9386E+18
Te-131m	3.1048E-09	3.8937E-18	1.7899E+07	7.0619E+18
Te-132	2.3395E-08	7.7062E-17	3.5157E+08	5.1188E+19
I-131	3.6289E+04	2.9271E-04	1.3456E+21	2.4665E+20
I-132	2.8812E+04	2.7912E-06	1.2734E+19	3.4873E+20
I-133	6.6994E+04	5.9140E-05	2.6778E+20	4.9621E+20
I-134	3.7127E+03	1.3917E-07	6.2546E+17	2.7529E+20
I-135	4.7490E+04	1.3523E-05	6.0323E+19	4.3277E+20
Xe-133	1.5987E+08	8.5410E-01	3.8673E+24	6.0546E+22
Xe-135	6.8457E+07	2.6807E-02	1.1958E+23	2.8513E+22
Cs-134	1.9391E-08	1.4988E-14	6.7356E+10	5.6007E+19
Cs-136	5.6224E-09	7.6714E-17	3.3969E+08	1.6345E+19
Cs-137	1.5621E-08	1.7959E-13	7.8942E+11	4.5113E+19
Ba-139	1.7513E-09	1.0707E-19	4.6386E+05	1.5045E+19
Ba-140	1.2593E-08	1.7201E-16	7.3991E+08	2.7062E+19
La-140	5.6591E-10	1.0181E-18	4.3796E+06	2.9752E+17
La-141	5.9058E-11	1.0443E-20	4.4601E+04	2.0440E+17
Ce-141	2.9865E-10	1.0481E-17	4.4766E+07	6.3881E+17
Ce-143	2.6928E-10	4.0549E-19	1.7076E+06	6.0897E+17
Ce-144	2.4011E-10	7.5281E-17	3.1483E+08	5.1297E+17
Pr-143	1.1612E-10	1.7245E-18	7.2623E+06	2.4656E+17
Nd-147	4.6237E-11	5.7154E-19	2.3414E+06	9.9463E+16
Np-239	3.3229E-09	1.4324E-17	3.6091E+07	7.3381E+18
Pu-238	1.0642E-12	6.2163E-17	1.5729E+08	2.2729E+15
Pu-239	9.2682E-14	1.4911E-15	3.7572E+09	1.9789E+14
Pu-240	1.7212E-13	7.5536E-16	1.8954E+09	3.6762E+14
Pu-241	3.6854E-11	3.5776E-16	8.9397E+08	7.8714E+16
Am-241	2.6652E-14	7.7652E-18	1.9404E+07	5.6890E+13
Cm-242	6.5069E-12	1.9633E-18	4.8856E+06	1.3904E+16
Cm-244	4.5522E-13	5.6268E-18	1.3887E+07	9.7229E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 4.0000	Atmosphere	Sump
Noble gases (atoms)	3.5039E+25	0.0000E+00
Elemental I (atoms)	1.8975E+08	5.7222E+22
Organic I (atoms)	1.6871E+21	0.0000E+00
Aerosols (kg)	2.0770E-13	6.1615E+01

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Dose Effective (Ci/cc) I-131 (Thyroid)         1.8211E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.2025E-05
Total I (Ci)                                   1.8330E+05
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Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 4.0000		
Noble gases (atoms)	0.0000E+00	2.6048E+22
Elemental I (atoms)	0.0000E+00	1.5105E+18
Organic I (atoms)	0.0000E+00	1.3634E+18
Aerosols (kg)	0.0000E+00	1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 4.0000		
Noble gases (atoms)	0.0000E+00	2.6048E+22
Elemental I (atoms)	0.0000E+00	1.5105E+18
Organic I (atoms)	0.0000E+00	1.3634E+18
Aerosols (kg)	0.0000E+00	1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 4.0000		
Noble gases (atoms)	0.0000E+00	1.3037E+22
Elemental I (atoms)	0.0000E+00	7.5404E+17
Organic I (atoms)	0.0000E+00	6.8229E+17
Aerosols (kg)	0.0000E+00	8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 4.0000		
Noble gases (atoms)	0.0000E+00	1.3043E+17
Elemental I (atoms)	0.0000E+00	5.4182E+12
Organic I (atoms)	0.0000E+00	6.6942E+12
Aerosols (kg)	0.0000E+00	5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway Filtered	Transported
Time (h) = 4.0000		
Noble gases (atoms)	0.0000E+00	3.7565E+08
Elemental I (atoms)	0.0000E+00	3.0884E+04
Organic I (atoms)	0.0000E+00	2.0067E+04
Aerosols (kg)	0.0000E+00	3.4703E-17

Environment Integral Nuclide Release:

Time (h) = 4.0000	Ci	kg	Atoms	Bq
Co-58	2.8443E-03	8.9450E-11	9.2876E+14	1.0524E+08
Co-60	3.4074E-03	3.0144E-09	3.0255E+16	1.2607E+08
Kr-85	9.4178E+02	2.4005E-03	1.7007E+22	3.4846E+13
Kr-85m	9.8105E+03	1.1921E-06	8.4459E+18	3.6299E+14
Kr-87	7.2059E+03	2.5440E-07	1.7609E+18	2.6662E+14
Kr-88	2.1099E+04	1.6827E-06	1.1515E+19	7.8068E+14
Rb-86	1.4707E-01	1.8075E-09	1.2657E+16	5.4415E+09
Sr-89	5.1100E+00	1.7589E-07	1.1902E+18	1.8907E+11
Sr-90	6.9506E-01	5.0955E-06	3.4095E+19	2.5717E+10
Sr-91	5.3535E+00	1.4768E-09	9.7733E+15	1.9808E+11
Sr-92	3.6920E+00	2.9373E-10	1.9227E+15	1.3660E+11
Y-90	1.6003E-02	2.9413E-11	1.9681E+14	5.9210E+08
Y-91	6.5702E-02	2.6791E-09	1.7730E+16	2.4310E+09
Y-92	8.5411E-01	8.8763E-11	5.8102E+14	3.1602E+10
Y-93	6.1323E-02	1.8380E-11	1.1902E+14	2.2689E+09

Zr-95	7.6367E-02	3.5548E-09	2.2534E+16	2.8256E+09
Zr-97	6.6751E-02	3.4918E-11	2.1678E+14	2.4698E+09
Nb-95	7.6253E-02	1.9500E-09	1.2362E+16	2.8214E+09
Mo-99	9.3835E-01	1.9565E-09	1.1901E+16	3.4719E+10
Tc-99m	8.4758E-01	1.6119E-10	9.8051E+14	3.1360E+10
Ru-103	8.4316E-01	2.6125E-08	1.5275E+17	3.1197E+10
Ru-105	4.2716E-01	6.3547E-11	3.6446E+14	1.5805E+10
Ru-106	3.8090E-01	1.1385E-07	6.4683E+17	1.4093E+10
Rh-105	5.7023E-01	6.7558E-10	3.8747E+15	2.1098E+10
Sb-127	9.5613E-01	3.5803E-09	1.6977E+16	3.5377E+10
Sb-129	2.0740E+00	3.6881E-10	1.7217E+15	7.6737E+10
Te-127	9.5998E-01	3.6375E-10	1.7249E+15	3.5519E+10
Te-127m	1.6487E-01	1.7479E-08	8.2882E+16	6.1002E+09
Te-129	2.3682E+00	1.1308E-10	5.2789E+14	8.7622E+10
Te-129m	5.3961E-01	1.7912E-08	8.3620E+16	1.9966E+10
Te-131m	1.9182E+00	2.4056E-09	1.1059E+16	7.0975E+10
Te-132	1.4116E+01	4.6496E-08	2.1212E+17	5.2228E+11
I-131	1.2598E+02	1.0162E-06	4.6715E+18	4.6613E+12
I-132	1.3361E+02	1.2944E-08	5.9055E+16	4.9437E+12
I-133	2.4507E+02	2.1634E-07	9.7956E+17	9.0675E+12
I-134	6.6193E+01	2.4813E-09	1.1151E+16	2.4491E+12
I-135	1.9746E+02	5.6227E-08	2.5082E+17	7.3061E+12
Xe-133	8.8112E+04	4.7073E-04	2.1314E+21	3.2601E+15
Xe-135	4.0141E+04	1.5719E-05	7.0118E+19	1.4852E+15
Cs-134	1.6912E+01	1.3071E-05	5.8745E+19	6.2575E+11
Cs-136	4.9238E+00	6.7182E-08	2.9748E+17	1.8218E+11
Cs-137	1.3623E+01	1.5662E-04	6.8845E+20	5.0405E+11
Ba-139	2.6170E+00	1.5999E-10	6.9317E+14	9.6830E+10
Ba-140	7.5153E+00	1.0266E-07	4.4158E+17	2.7807E+11
La-140	2.2755E-01	4.0939E-10	1.7610E+15	8.4193E+09
La-141	4.7536E-02	8.4054E-12	3.5900E+13	1.7588E+09
La-142	2.6124E-02	1.8249E-12	7.7393E+12	9.6657E+08
Ce-141	1.7771E-01	6.2368E-09	2.6637E+16	6.5752E+09
Ce-143	1.6578E-01	2.4964E-10	1.0513E+15	6.1340E+09
Ce-144	1.4278E-01	4.4767E-08	1.8722E+17	5.2830E+09
Pr-143	6.8878E-02	1.0229E-09	4.3076E+15	2.5485E+09
Nd-147	2.7611E-02	3.4130E-10	1.3982E+15	1.0216E+09
Np-239	2.0163E+00	8.6911E-09	2.1899E+16	7.4602E+10
Pu-238	6.3273E-04	3.6959E-08	9.3519E+16	2.3411E+07
Pu-239	5.5095E-05	8.8639E-07	2.2335E+18	2.0385E+06
Pu-240	1.0234E-04	4.4911E-07	1.1269E+18	3.7865E+06
Pu-241	2.1912E-02	2.1271E-07	5.3153E+17	8.1075E+08
Am-241	1.5841E-05	4.6156E-09	1.1533E+16	5.8613E+05
Cm-242	3.8699E-03	1.1677E-09	2.9057E+15	1.4319E+08
Cm-244	2.7066E-04	3.3455E-09	8.2571E+15	1.0015E+07

Environment Transport Group Inventory:

Time (h) = 4.0000	Total Release	Release Rate/s
Noble gases (atoms)	1.9230E+22	1.3354E+18
Elemental I (atoms)	1.7950E+18	1.2465E+14
Organic I (atoms)	1.0583E+18	7.3491E+13
Aerosols (kg)	1.7772E-04	1.2341E-08
Dose Effective (Ci) I-131 (Thyroid)		1.7335E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		2.1386E+02
Total I (Ci)		7.6832E+02

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.7651E+21
Elemental I (atoms)	6.4618E+16	8.8009E+17
Organic I (atoms)	0.0000E+00	5.3158E+17
Aerosols (kg)	9.2319E-04	1.2804E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.8795E+21
Elemental I (atoms)	1.3010E+17	7.3899E+17
Organic I (atoms)	0.0000E+00	4.3744E+17
Aerosols (kg)	1.8946E-04	4.6716E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5874E+21
Elemental I (atoms)	3.1301E+16	1.7779E+17
Organic I (atoms)	0.0000E+00	9.0491E+16
Aerosols (kg)	2.4100E-05	2.9695E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8156E+19
Elemental I (atoms)	1.6885E+15	1.2778E+14
Organic I (atoms)	9.9077E+14	1.9598E+13
Aerosols (kg)	1.6555E-07	1.5996E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0802E+18
Elemental I (atoms)	0.0000E+00	5.7560E+14
Organic I (atoms)	0.0000E+00	2.3705E+14
Aerosols (kg)	0.0000E+00	6.2738E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 4.0000	Pathway Filtered	Transported
Noble gases (atoms)	1.6296E+19	0.0000E+00
Elemental I (atoms)	6.4250E+14	0.0000E+00
Organic I (atoms)	1.9793E+14	0.0000E+00
Aerosols (kg)	7.3650E-08	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3291E+00	1.3435E+01	4.8810E+00
Accumulated dose (rem)	7.3425E+00	3.0316E+01	8.7034E+00

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8800E-01	5.8344E-01	2.1196E-01
Accumulated dose (rem)	3.7034E-01	1.7940E+00	4.5246E-01

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.4869E-01	1.1319E+01	1.1308E+00
Accumulated dose (rem)	1.0160E+00	3.0009E+01	2.3592E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Kr-85	1.7141E+06	4.3690E+00	3.0954E+25	1.5599E+21

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Kr-85m                 7.9778E+06  9.6941E-04  6.8681E+21  1.2945E+22
Kr-87                  7.1049E+05  2.5083E-05  1.7362E+20  7.2552E+21
Kr-88                  1.0691E+07  8.5264E-04  5.8349E+21  2.5273E+22
Sr-90                  3.3179E-15  2.4324E-20  1.6275E+05  2.4968E+18
I-131                  3.5693E+04  2.8790E-04  1.3235E+21  2.6582E+20
I-132                  8.6115E+03  8.3427E-07  3.8061E+18  3.5764E+20
I-133                  5.8504E+04  5.1645E-05  2.3385E+20  5.2959E+20
I-134                  1.5675E+02  5.8760E-09  2.6407E+16  2.7589E+20
I-135                  3.1152E+04  8.8704E-06  3.9569E+19  4.5341E+20
Xe-133                 1.5605E+08  8.3366E-01  3.7748E+24  1.4470E+23
Xe-135                 5.0358E+07  1.9719E-02  8.7965E+22  5.9919E+22
Cs-134                 7.4520E-14  5.7597E-20  2.5885E+05  5.6007E+19
Cs-137                 6.0040E-14  6.9026E-19  3.0342E+06  4.5113E+19
Pu-239                 2.6318E-19  4.2341E-21  1.0669E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =   8.0000    Atmosphere     Sump
Noble gases (atoms)    3.4829E+25  0.0000E+00
Elemental I (atoms)    6.5790E+02  5.7222E+22
Organic I (atoms)      1.6007E+21  0.0000E+00
Aerosols (kg)          7.8567E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.7242E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   2.0161E-05
Total I (Ci)                                   1.3412E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.6848E+22
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  2.8119E+18
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.6848E+22
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  2.8119E+18
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.8482E+22
Elemental I (atoms)    0.0000E+00  7.5404E+17
Organic I (atoms)      0.0000E+00  1.4086E+18
Aerosols (kg)          0.0000E+00  8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1576E+17
Elemental I (atoms)    0.0000E+00  5.4182E+12
Organic I (atoms)      0.0000E+00  1.5410E+13
Aerosols (kg)          0.0000E+00  5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =   8.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1565E+09
Elemental I (atoms)    0.0000E+00  7.1318E+04
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Organic I (atoms)	0.0000E+00	1.0572E+05
Aerosols (kg)	0.0000E+00	8.1850E-17

Environment Integral Nuclide Release:

Time (h) = 8.0000	Ci	kg	Atoms	Bq
Co-58	4.2999E-03	1.3523E-10	1.4040E+15	1.5910E+08
Co-60	5.1534E-03	4.5590E-09	4.5758E+16	1.9068E+08
Kr-85	3.6546E+03	9.3151E-03	6.5996E+22	1.3522E+14
Kr-85m	2.6785E+04	3.2547E-06	2.3059E+19	9.9104E+14
Kr-87	1.0859E+04	3.8335E-07	2.6535E+18	4.0177E+14
Kr-88	4.8472E+04	3.8656E-06	2.6454E+19	1.7935E+15
Rb-86	2.0863E-01	2.5640E-09	1.7954E+16	7.7192E+09
Sr-89	7.7236E+00	2.6585E-07	1.7989E+18	2.8577E+11
Sr-90	1.0512E+00	7.7065E-06	5.1566E+19	3.8895E+10
Sr-91	7.5117E+00	2.0722E-09	1.3713E+16	2.7793E+11
Sr-92	4.5162E+00	3.5930E-10	2.3519E+15	1.6710E+11
Y-90	3.5828E-02	6.5852E-11	4.4064E+14	1.3256E+09
Y-91	1.0088E-01	4.1134E-09	2.7221E+16	3.7324E+09
Y-92	1.6212E+00	1.6848E-10	1.1029E+15	5.9984E+10
Y-93	8.6398E-02	2.5896E-11	1.6769E+14	3.1967E+09
Zr-95	1.1544E-01	5.3736E-09	3.4064E+16	4.2713E+09
Zr-97	9.6633E-02	5.0549E-11	3.1383E+14	3.5754E+09
Nb-95	1.1533E-01	2.9493E-09	1.8696E+16	4.2671E+09
Mo-99	1.4028E+00	2.9249E-09	1.7792E+16	5.1904E+10
Tc-99m	1.2766E+00	2.4278E-10	1.4768E+15	4.7233E+10
Ru-103	1.2742E+00	3.9480E-08	2.3083E+17	4.7145E+10
Ru-105	5.5856E-01	8.3094E-11	4.7657E+14	2.0667E+10
Ru-106	5.7604E-01	1.7218E-07	9.7820E+17	2.1313E+10
Rh-105	8.5473E-01	1.0127E-09	5.8079E+15	3.1625E+10
Sb-127	1.4341E+00	5.3701E-09	2.5464E+16	5.3061E+10
Sb-129	2.7030E+00	4.8068E-10	2.2440E+15	1.0001E+11
Te-127	1.4495E+00	5.4924E-10	2.6044E+15	5.3632E+10
Te-127m	2.4936E-01	2.6436E-08	1.2535E+17	9.2262E+09
Te-129	3.2161E+00	1.5357E-10	7.1691E+14	1.1900E+11
Te-129m	8.1586E-01	2.7082E-08	1.2643E+17	3.0187E+10
Te-131m	2.8291E+00	3.5478E-09	1.6310E+16	1.0467E+11
Te-132	2.1140E+01	6.9634E-08	3.1769E+17	7.8219E+11
I-131	2.3113E+02	1.8644E-06	8.5706E+18	8.5520E+12
I-132	1.8881E+02	1.8292E-08	8.3450E+16	6.9859E+12
I-133	4.2841E+02	3.7819E-07	1.7124E+18	1.5851E+13
I-134	6.9577E+01	2.6081E-09	1.1721E+16	2.5743E+12
I-135	3.1126E+02	8.8632E-08	3.9537E+17	1.1517E+13
Xe-133	3.3752E+05	1.8032E-03	8.1647E+21	1.2488E+16
Xe-135	1.3170E+05	5.1570E-05	2.3005E+20	4.8728E+15
Cs-134	2.4029E+01	1.8572E-05	8.3465E+19	8.8908E+11
Cs-136	6.9799E+00	9.5236E-08	4.2171E+17	2.5826E+11
Cs-137	1.9356E+01	2.2253E-04	9.7820E+20	7.1619E+11
Ba-139	2.8846E+00	1.7635E-10	7.6404E+14	1.0673E+11
Ba-140	1.1338E+01	1.5487E-07	6.6617E+17	4.1949E+11
La-140	5.3951E-01	9.7064E-10	4.1753E+15	1.9962E+10
La-141	6.1231E-02	1.0827E-11	4.6243E+13	2.2655E+09
La-142	2.9280E-02	2.0454E-12	8.6744E+12	1.0834E+09
Ce-141	2.6856E-01	9.4254E-09	4.0256E+16	9.9368E+09
Ce-143	2.4505E-01	3.6900E-10	1.5540E+15	9.0668E+09
Ce-144	2.1593E-01	6.7700E-08	2.8312E+17	7.9893E+09
Pr-143	1.0448E-01	1.5516E-09	6.5343E+15	3.8659E+09
Nd-147	4.1637E-02	5.1468E-10	2.1085E+15	1.5406E+09
Np-239	3.0085E+00	1.2968E-08	3.2676E+16	1.1131E+11
Pu-238	9.5697E-04	5.5899E-08	1.4144E+17	3.5408E+07
Pu-239	8.3338E-05	1.3408E-06	3.3784E+18	3.0835E+06
Pu-240	1.5478E-04	6.7925E-07	1.7044E+18	5.7268E+06
Pu-241	3.3141E-02	3.2171E-07	8.0390E+17	1.2262E+09
Am-241	2.3966E-05	6.9827E-09	1.7448E+16	8.8673E+05
Cm-242	5.8519E-03	1.7656E-09	4.3938E+15	2.1652E+08
Cm-244	4.0936E-04	5.0599E-09	1.2488E+16	1.5146E+07

Environment Transport Group Inventory:

Time (h) = 8.0000	Total Release	Release Rate/s
Noble gases (atoms)	7.4443E+22	2.5848E+18
Elemental I (atoms)	2.6681E+18	9.2642E+13
Organic I (atoms)	3.6968E+18	1.2836E+14
Aerosols (kg)	2.5317E-04	8.7906E-09

Dose Effective (Ci) I-131 (Thyroid)	3.1265E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.7953E+02
Total I (Ci)	1.2292E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3638E+22
Elemental I (atoms)	8.8999E+16	1.2122E+18
Organic I (atoms)	0.0000E+00	1.6701E+18
Aerosols (kg)	1.2817E-03	1.7776E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2113E+22
Elemental I (atoms)	1.9143E+17	1.0873E+18
Organic I (atoms)	0.0000E+00	1.5952E+18
Aerosols (kg)	2.8041E-04	6.9142E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6987E+21
Elemental I (atoms)	6.5429E+16	3.7164E+17
Organic I (atoms)	0.0000E+00	4.3607E+17
Aerosols (kg)	5.0955E-05	6.2785E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7878E+19
Elemental I (atoms)	2.4679E+15	1.3565E+14
Organic I (atoms)	3.3459E+15	4.3387E+13
Aerosols (kg)	2.3281E-07	1.6675E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4992E+19
Elemental I (atoms)	0.0000E+00	7.4835E+14
Organic I (atoms)	0.0000E+00	7.5909E+14
Aerosols (kg)	0.0000E+00	7.7648E-08

Control Room Exhaust to Environment Transport Group Inventory:

Time (h) = 8.0000	Pathway Filtered	Transported
Noble gases (atoms)	7.2310E+19	0.0000E+00
Elemental I (atoms)	8.5884E+14	0.0000E+00
Organic I (atoms)	7.0475E+14	0.0000E+00
Aerosols (kg)	9.2810E-08	0.0000E+00

Exclusion Area Boundary Doses:

```
Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        6.9597E+00  3.6876E+01  8.1559E+00
Accumulated dose (rem)  1.4302E+01  6.7192E+01  1.6859E+01

Low Population Zone Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9465E-01  5.3040E-01  2.1186E-01
Accumulated dose (rem)  5.6499E-01  2.3244E+00  6.6432E-01

Control Room Doses:

Time (h) =  24.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.2190E-01  1.3344E+01  9.6367E-01
Accumulated dose (rem)  1.5379E+00  4.3353E+01  3.3228E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  24.0000       Ci           kg         Atoms      Decay
Kr-85                  1.6989E+06  4.3303E+00  3.0680E+25  5.1961E+21
Kr-85m                 6.6519E+05  8.0829E-05  5.7267E+20  1.9218E+22
Kr-87                  1.1487E+02  4.0552E-09  2.8070E+16  7.4286E+21
Kr-88                  2.1343E+05  1.7021E-05  1.1648E+20  3.0978E+22
Sr-90                  3.3178E-15  2.4322E-20  1.6275E+05  2.4968E+18
I-131                  3.3403E+04  2.6943E-04  1.2386E+21  3.3941E+20
I-132                  6.8727E+01  6.6582E-09  3.0376E+16  3.6141E+20
I-133                  3.4025E+04  3.0036E-05  1.3600E+20  6.2583E+20
I-134                  4.9808E-04  1.8671E-14  8.3909E+10  2.7591E+20
I-135                  5.7674E+03  1.6423E-06  7.3259E+18  4.8548E+20
Xe-133                 1.4164E+08  7.5667E-01  3.4262E+24  4.6160E+23
Xe-135                 1.4744E+07  5.7733E-03  2.5754E+22  1.2170E+23
Cs-134                 7.4475E-14  5.7561E-20  2.5869E+05  5.6007E+19
Cs-137                 6.0037E-14  6.9023E-19  3.0340E+06  4.5113E+19
Pu-239                 2.6360E-19  4.2410E-21  1.0686E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =  24.0000    Atmosphere     Sump
Noble gases (atoms)    3.4132E+25  0.0000E+00
Elemental I (atoms)    5.7395E+02  5.7222E+22
Organic I (atoms)      1.3820E+21  0.0000E+00
Aerosols (kg)          7.8518E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.4584E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.5977E-05
Total I (Ci)                                   7.3264E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7844E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  8.0501E+18
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7844E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  8.0501E+18
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
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Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9452E+22
Elemental I (atoms)	0.0000E+00	7.5404E+17
Organic I (atoms)	0.0000E+00	4.0352E+18
Aerosols (kg)	0.0000E+00	8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0474E+18
Elemental I (atoms)	0.0000E+00	5.4182E+12
Organic I (atoms)	0.0000E+00	4.6929E+13
Aerosols (kg)	0.0000E+00	5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3872E+10
Elemental I (atoms)	0.0000E+00	2.1862E+05
Organic I (atoms)	0.0000E+00	1.0398E+06
Aerosols (kg)	0.0000E+00	2.7036E-16

Environment Integral Nuclide Release:

Time (h) = 24.0000	Ci	kg	Atoms	Bq
Co-58	4.9106E-03	1.5443E-10	1.6035E+15	1.8169E+08
Co-60	5.8876E-03	5.2085E-09	5.2277E+16	2.1784E+08
Kr-85	1.8116E+04	4.6175E-02	3.2714E+23	6.7029E+14
Kr-85m	5.0119E+04	6.0901E-06	4.3148E+19	1.8544E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9236E+04	5.5216E-06	3.7786E+19	2.5617E+15
Rb-86	2.3436E-01	2.8803E-09	2.0169E+16	8.6713E+09
Sr-89	8.8191E+00	3.0356E-07	2.0540E+18	3.2631E+11
Sr-90	1.2010E+00	8.8046E-06	5.8914E+19	4.4437E+10
Sr-91	8.1206E+00	2.2402E-09	1.4825E+16	3.0046E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.2677E-02	9.6821E-11	6.4785E+14	1.9490E+09
Y-91	1.1647E-01	4.7494E-09	3.1430E+16	4.3095E+09
Y-92	1.8406E+00	1.9129E-10	1.2521E+15	6.8103E+10
Y-93	9.3634E-02	2.8065E-11	1.8173E+14	3.4644E+09
Zr-95	1.3183E-01	6.1366E-09	3.8900E+16	4.8778E+09
Zr-97	1.0662E-01	5.5775E-11	3.4627E+14	3.9451E+09
Nb-95	1.3176E-01	3.3695E-09	2.1360E+16	4.8750E+09
Mo-99	1.5867E+00	3.3083E-09	2.0125E+16	5.8709E+10
Tc-99m	1.4510E+00	2.7594E-10	1.6786E+15	5.3686E+10
Ru-103	1.4547E+00	4.5073E-08	2.6353E+17	5.3823E+10
Ru-105	5.8305E-01	8.6737E-11	4.9747E+14	2.1573E+10
Ru-106	6.5807E-01	1.9670E-07	1.1175E+18	2.4348E+10
Rh-105	9.6535E-01	1.1437E-09	6.5596E+15	3.5718E+10
Sb-127	1.6266E+00	6.0910E-09	2.8883E+16	6.0185E+10
Sb-129	2.8179E+00	5.0110E-10	2.3393E+15	1.0426E+11
Te-127	1.6523E+00	6.2609E-10	2.9688E+15	6.1136E+10
Te-127m	2.8489E-01	3.0202E-08	1.4322E+17	1.0541E+10
Te-129	3.4239E+00	1.6349E-10	7.6323E+14	1.2668E+11
Te-129m	9.3163E-01	3.0925E-08	1.4437E+17	3.4470E+10
Te-131m	3.1651E+00	3.9692E-09	1.8247E+16	1.1711E+11
Te-132	2.3948E+01	7.8883E-08	3.5988E+17	8.8608E+11
I-131	5.4437E+02	4.3910E-06	2.0186E+19	2.0142E+13
I-132	2.2044E+02	2.1356E-08	9.7429E+16	8.1561E+12
I-133	8.3577E+02	7.3779E-07	3.3406E+18	3.0924E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.4612E+02	1.2703E-07	5.6668E+17	1.6507E+13
Xe-133	1.5941E+06	8.5163E-03	3.8561E+22	5.8981E+16
Xe-135	3.6830E+05	1.4422E-04	6.4334E+20	1.3627E+16
Cs-134	2.7030E+01	2.0892E-05	9.3890E+19	1.0001E+12

Cs-136	7.8362E+00	1.0692E-07	4.7344E+17	2.8994E+11
Cs-137	2.1775E+01	2.5034E-04	1.1004E+21	8.0567E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2924E+01	1.7654E-07	7.5939E+17	4.7820E+11
La-140	8.0756E-01	1.4529E-09	6.2497E+15	2.9880E+10
La-141	6.3550E-02	1.1237E-11	4.7994E+13	2.3513E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0659E-01	1.0760E-08	4.5957E+16	1.1344E+10
Ce-143	2.7464E-01	4.1356E-10	1.7416E+15	1.0162E+10
Ce-144	2.4667E-01	7.7338E-08	3.2343E+17	9.1267E+09
Pr-143	1.1965E-01	1.7769E-09	7.4828E+15	4.4271E+09
Nd-147	4.7447E-02	5.8650E-10	2.4027E+15	1.7555E+09
Np-239	3.3975E+00	1.4645E-08	3.6901E+16	1.2571E+11
Pu-238	1.0933E-03	6.3864E-08	1.6160E+17	4.0453E+07
Pu-239	9.5223E-05	1.5320E-06	3.8602E+18	3.5233E+06
Pu-240	1.7683E-04	7.7604E-07	1.9472E+18	6.5428E+06
Pu-241	3.7862E-02	3.6755E-07	9.1844E+17	1.4009E+09
Am-241	2.7387E-05	7.9796E-09	1.9939E+16	1.0133E+06
Cm-242	6.6845E-03	2.0169E-09	5.0189E+15	2.4733E+08
Cm-244	4.6768E-04	5.7808E-09	1.4268E+16	1.7304E+07

Environment Transport Group Inventory:

Time (h) = 24.0000	Total Release	Release Rate/s	
Noble gases (atoms)	3.6643E+23	4.2411E+18	
Elemental I (atoms)	3.0644E+18	3.5468E+13	
Organic I (atoms)	1.6217E+19	1.8770E+14	
Aerosols (kg)	2.8498E-04	3.2984E-09	
Dose Effective (Ci) I-131 (Thyroid)			6.9778E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			8.1402E+02
Total I (Ci)			2.1164E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5238E+23
Elemental I (atoms)	1.0258E+17	1.3477E+18
Organic I (atoms)	0.0000E+00	6.7890E+18
Aerosols (kg)	1.4407E-03	1.9981E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5211E+23
Elemental I (atoms)	2.1283E+17	1.1749E+18
Organic I (atoms)	0.0000E+00	6.7676E+18
Aerosols (kg)	3.0621E-04	7.5503E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2097E+22
Elemental I (atoms)	1.0802E+17	5.4600E+17
Organic I (atoms)	0.0000E+00	2.7400E+18
Aerosols (kg)	7.8504E-05	9.6731E-06

Filtered Intake to Control Room Transport Group Inventory:

Time (h) = 24.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7931E+20
Elemental I (atoms)	2.6180E+15	1.3717E+14
Organic I (atoms)	8.1020E+15	9.1429E+13

```
Aerosols (kg)          2.4483E-07  1.6796E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.9444E+19
Elemental I (atoms)    0.0000E+00  7.8162E+14
Organic I (atoms)      0.0000E+00  1.8133E+15
Aerosols (kg)          0.0000E+00  8.0311E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  24.0000     Filtered   Transported
Noble gases (atoms)    2.1328E+20  0.0000E+00
Elemental I (atoms)    9.1083E+14  0.0000E+00
Organic I (atoms)      1.8519E+15  0.0000E+00
Aerosols (kg)          9.7091E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.8304E+00  2.2659E+01  2.5265E+00
Accumulated dose (rem)  1.6133E+01  8.9851E+01  1.9386E+01

Low Population Zone Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.9690E-02  1.6017E-01  2.4610E-02
Accumulated dose (rem)  5.8468E-01  2.4846E+00  6.8893E-01

Control Room Doses:

Time (h) =  48.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.4612E-02  3.2243E+00  1.5370E-01
Accumulated dose (rem)  1.5925E+00  4.6577E+01  3.4765E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  48.0000       Ci           kg         Atoms      Decay
Kr-85                  1.6874E+06  4.3010E+00  3.0472E+25  1.0608E+22
Kr-85m                 1.6122E+04  1.9590E-06  1.3879E+19  1.9775E+22
Kr-87                  2.3769E-04  8.3914E-15  5.8085E+10  7.4286E+21
Kr-88                  6.0600E+02  4.8328E-08  3.3073E+17  3.1094E+22
Sr-90                  3.3176E-15  2.4321E-20  1.6274E+05  2.4968E+18
I-131                  3.0442E+04  2.4555E-04  1.1288E+21  4.4137E+20
I-132                  4.9325E-02  4.7786E-12  2.1801E+13  3.6144E+20
I-133                  1.5191E+04  1.3410E-05  6.0718E+19  7.0048E+20
I-135                  4.6250E+02  1.3170E-07  5.8747E+17  4.9220E+20
Xe-133                 1.2329E+08  6.5864E-01  2.9823E+24  8.8431E+23
Xe-135                 2.3503E+06  9.2034E-04  4.1055E+21  1.4327E+23
Cs-134                 7.4408E-14  5.7510E-20  2.5846E+05  5.6007E+19
Cs-137                 6.0034E-14  6.9020E-19  3.0339E+06  4.5113E+19
Pu-239                 2.6411E-19  4.2492E-21  1.0707E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =  48.0000    Atmosphere     Sump
Noble gases (atoms)    3.3458E+25  0.0000E+00
Elemental I (atoms)    4.9784E+02  5.7222E+22
Organic I (atoms)      1.1901E+21  0.0000E+00
Aerosols (kg)          7.8468E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.2261E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.2840E-05
Total I (Ci)                                   4.6095E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:
```

```
                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6809E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.1453E+19
Aerosols (kg)          0.0000E+00  1.6396E-03
```

Drywell to Intact Control Volume 2 Transport Group Inventory:

```
                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.6809E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.1453E+19
Aerosols (kg)          0.0000E+00  1.6396E-03
```

Drywell to Intact Control Volume 4 Transport Group Inventory:

```
                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3402E+23
Elemental I (atoms)    0.0000E+00  7.5404E+17
Organic I (atoms)      0.0000E+00  5.7268E+18
Aerosols (kg)          0.0000E+00  8.1851E-04
```

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.1232E+18
Elemental I (atoms)    0.0000E+00  5.4182E+12
Organic I (atoms)      0.0000E+00  8.7760E+13
Aerosols (kg)          0.0000E+00  5.8815E-09
```

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

```
                          Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.9190E+10
Elemental I (atoms)    0.0000E+00  4.1110E+05
Organic I (atoms)      0.0000E+00  3.8902E+06
Aerosols (kg)          0.0000E+00  5.5294E-16
```

Environment Integral Nuclide Release:

Time (h) = 48.0000	Ci	kg	Atoms	Bq
Co-58	4.9180E-03	1.5466E-10	1.6059E+15	1.8197E+08
Co-60	5.8965E-03	5.2164E-09	5.2357E+16	2.1817E+08
Kr-85	2.9335E+04	7.4769E-02	5.2973E+23	1.0854E+15
Kr-85m	5.1186E+04	6.2198E-06	4.4066E+19	1.8939E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9448E+04	5.5385E-06	3.7902E+19	2.5696E+15
Rb-86	2.3467E-01	2.8841E-09	2.0196E+16	8.6828E+09
Sr-89	8.8323E+00	3.0402E-07	2.0571E+18	3.2680E+11
Sr-90	1.2028E+00	8.8180E-06	5.9003E+19	4.4505E+10
Sr-91	8.1224E+00	2.2407E-09	1.4828E+16	3.0053E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.3198E-02	9.7780E-11	6.5427E+14	1.9683E+09
Y-91	1.1668E-01	4.7577E-09	3.1485E+16	4.3171E+09
Y-92	1.8408E+00	1.9130E-10	1.2522E+15	6.8108E+10
Y-93	9.3657E-02	2.8072E-11	1.8178E+14	3.4653E+09
Zr-95	1.3203E-01	6.1458E-09	3.8959E+16	4.8851E+09
Zr-97	1.0668E-01	5.5803E-11	3.4645E+14	3.9471E+09
Nb-95	1.3196E-01	3.3746E-09	2.1392E+16	4.8825E+09
Mo-99	1.5886E+00	3.3121E-09	2.0148E+16	5.8777E+10
Tc-99m	1.4528E+00	2.7629E-10	1.6807E+15	5.3754E+10

Ru-103	1.4568E+00	4.5140E-08	2.6392E+17	5.3903E+10
Ru-105	5.8307E-01	8.6740E-11	4.9748E+14	2.1573E+10
Ru-106	6.5906E-01	1.9700E-07	1.1192E+18	2.4385E+10
Rh-105	9.6629E-01	1.1448E-09	6.5660E+15	3.5753E+10
Sb-127	1.6287E+00	6.0986E-09	2.8919E+16	6.0260E+10
Sb-129	2.8180E+00	5.0111E-10	2.3394E+15	1.0426E+11
Te-127	1.6546E+00	6.2697E-10	2.9730E+15	6.1221E+10
Te-127m	2.8532E-01	3.0248E-08	1.4343E+17	1.0557E+10
Te-129	3.4252E+00	1.6355E-10	7.6352E+14	1.2673E+11
Te-129m	9.3302E-01	3.0971E-08	1.4458E+17	3.4522E+10
Te-131m	3.1677E+00	3.9725E-09	1.8262E+16	1.1720E+11
Te-132	2.3977E+01	7.8977E-08	3.6031E+17	8.8715E+11
I-131	7.5568E+02	6.0954E-06	2.8021E+19	2.7960E+13
I-132	2.2104E+02	2.1415E-08	9.7698E+16	8.1786E+12
I-133	9.8817E+02	8.7232E-07	3.9498E+18	3.6562E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.5935E+02	1.3080E-07	5.8348E+17	1.6996E+13
Xe-133	2.4679E+06	1.3184E-02	5.9698E+22	9.1312E+16
Xe-135	4.1130E+05	1.6106E-04	7.1845E+20	1.5218E+16
Cs-134	2.7068E+01	2.0920E-05	9.4019E+19	1.0015E+12
Cs-136	7.8464E+00	1.0706E-07	4.7406E+17	2.9032E+11
Cs-137	2.1805E+01	2.5068E-04	1.1019E+21	8.0678E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2943E+01	1.7679E-07	7.6048E+17	4.7888E+11
La-140	8.1539E-01	1.4670E-09	6.3102E+15	3.0169E+10
La-141	6.3551E-02	1.1237E-11	4.7995E+13	2.3514E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0705E-01	1.0776E-08	4.6025E+16	1.1361E+10
Ce-143	2.7487E-01	4.1392E-10	1.7431E+15	1.0170E+10
Ce-144	2.4704E-01	7.7455E-08	3.2392E+17	9.1406E+09
Pr-143	1.1984E-01	1.7797E-09	7.4947E+15	4.4341E+09
Nd-147	4.7514E-02	5.8733E-10	2.4061E+15	1.7580E+09
Np-239	3.4012E+00	1.4661E-08	3.6941E+16	1.2584E+11
Pu-238	1.0950E-03	6.3961E-08	1.6184E+17	4.0515E+07
Pu-239	9.5369E-05	1.5343E-06	3.8661E+18	3.5286E+06
Pu-240	1.7710E-04	7.7722E-07	1.9502E+18	6.5528E+06
Pu-241	3.7920E-02	3.6811E-07	9.1984E+17	1.4030E+09
Am-241	2.7429E-05	7.9918E-09	1.9970E+16	1.0149E+06
Cm-242	6.6946E-03	2.0199E-09	5.0265E+15	2.4770E+08
Cm-244	4.6839E-04	5.7896E-09	1.4289E+16	1.7331E+07

Environment Transport Group Inventory:

Time (h) = 48.0000	Total Release	Release Rate/s
Noble gases (atoms)	5.9023E+23	3.4157E+18
Elemental I (atoms)	3.0722E+18	1.7779E+13
Organic I (atoms)	2.4666E+19	1.4274E+14
Aerosols (kg)	2.8537E-04	1.6515E-09
Dose Effective (Ci) I-131 (Thyroid)		9.3484E+02
Dose Effective (Ci) I-131 (ICRP2 Thyroid)		1.0672E+03
Total I (Ci)		2.4939E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4207E+23
Elemental I (atoms)	1.0276E+17	1.3486E+18
Organic I (atoms)	0.0000E+00	1.0193E+19
Aerosols (kg)	1.4421E-03	2.0001E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 48.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4183E+23

```
Elemental I (atoms)    2.1289E+17  1.1751E+18
Organic I (atoms)      0.0000E+00  1.0173E+19
Aerosols (kg)          3.0626E-04  7.5516E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.0661E+23
Elemental I (atoms)    1.1120E+17  5.5269E+17
Organic I (atoms)      0.0000E+00  4.4300E+18
Aerosols (kg)          7.9995E-05  9.8567E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3561E+20
Elemental I (atoms)    2.6199E+15  1.3719E+14
Organic I (atoms)      1.0218E+16  1.1280E+14
Aerosols (kg)          2.4492E-07  1.6797E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  5.1800E+19
Elemental I (atoms)    0.0000E+00  7.8205E+14
Organic I (atoms)      0.0000E+00  2.2823E+15
Aerosols (kg)          0.0000E+00  8.0333E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  48.0000     Filtered   Transported
Noble gases (atoms)    2.8530E+20  0.0000E+00
Elemental I (atoms)    9.1140E+14  0.0000E+00
Organic I (atoms)      2.3678E+15  0.0000E+00
Aerosols (kg)          9.7120E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  72.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.1989E+00  1.9467E+01  1.7940E+00
Accumulated dose (rem)  1.7331E+01  1.0932E+02  2.1180E+01

Low Population Zone Doses:

Time (h) =  72.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.2897E-02  1.3761E-01  1.7103E-02
Accumulated dose (rem)  5.9758E-01  2.6222E+00  7.0603E-01

Control Room Doses:

Time (h) =  72.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.2872E-02  2.5922E+00  1.1211E-01
Accumulated dose (rem)  1.6254E+00  4.9169E+01  3.5886E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  72.0000       Ci           kg         Atoms      Decay
Kr-85                  1.6760E+06  4.2718E+00  3.0265E+25  1.5983E+22
Kr-85m                 3.9072E+02  4.7478E-08  3.3638E+17  1.9789E+22
Kr-87                  4.9186E-10  1.7364E-20  1.2020E+05  7.4286E+21
Kr-88                  1.7206E+00  1.3722E-10  9.3902E+14  3.1095E+22
Sr-90                  3.3174E-15  2.4320E-20  1.6273E+05  2.4968E+18
I-131                  2.7743E+04  2.2378E-04  1.0287E+21  5.3429E+20
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I-132                  3.5400E-05  3.4295E-15  1.5646E+10  3.6144E+20
I-133                  6.7820E+03  5.9869E-06  2.7108E+19  7.3381E+20
I-135                  3.7088E+01  1.0561E-08  4.7110E+16  4.9274E+20
Xe-133                 1.0731E+08  5.7330E-01  2.5959E+24  1.2523E+24
Xe-135                 3.7458E+05  1.4668E-04  6.5432E+20  1.4671E+23
Cs-134                 7.4339E-14  5.7457E-20  2.5822E+05  5.6007E+19
Cs-137                 6.0031E-14  6.9015E-19  3.0337E+06  4.5113E+19
Pu-239                 2.6449E-19  4.2552E-21  1.0722E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =  72.0000    Atmosphere     Sump
Noble gases (atoms)    3.2862E+25  0.0000E+00
Elemental I (atoms)    4.4472E+02  5.7222E+22
Organic I (atoms)      1.0559E+21  0.0000E+00
Aerosols (kg)          7.8427E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         1.0733E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   1.0988E-05
Total I (Ci)                                   3.4562E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5606E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.4430E+19
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.5606E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.4430E+19
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.7775E+23
Elemental I (atoms)    0.0000E+00  7.5404E+17
Organic I (atoms)      0.0000E+00  7.2071E+18
Aerosols (kg)          0.0000E+00  8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.1788E+18
Elemental I (atoms)    0.0000E+00  5.4182E+12
Organic I (atoms)      0.0000E+00  1.2349E+14
Aerosols (kg)          0.0000E+00  5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2444E+11
Elemental I (atoms)    0.0000E+00  5.8072E+05
Organic I (atoms)      0.0000E+00  8.1275E+06
Aerosols (kg)          0.0000E+00  8.3536E-16

Environment Integral Nuclide Release:

Time (h) =  72.0000       Ci           kg         Atoms         Bq
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Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8198E+08
Co-60	5.8972E-03	5.2169E-09	5.2362E+16	2.1819E+08
Kr-85	4.0498E+04	1.0322E-01	7.3133E+23	1.4984E+15
Kr-85m	5.1212E+04	6.2229E-06	4.4089E+19	1.8948E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9449E+04	5.5385E-06	3.7902E+19	2.5696E+15
Rb-86	2.3469E-01	2.8843E-09	2.0198E+16	8.6836E+09
Sr-89	8.8332E+00	3.0405E-07	2.0573E+18	3.2683E+11
Sr-90	1.2030E+00	8.8189E-06	5.9009E+19	4.4509E+10
Sr-91	8.1224E+00	2.2407E-09	1.4828E+16	3.0053E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.3255E-02	9.7884E-11	6.5497E+14	1.9704E+09
Y-91	1.1669E-01	4.7583E-09	3.1489E+16	4.3176E+09
Y-92	1.8408E+00	1.9130E-10	1.2522E+15	6.8108E+10
Y-93	9.3657E-02	2.8072E-11	1.8178E+14	3.4653E+09
Zr-95	1.3204E-01	6.1464E-09	3.8963E+16	4.8856E+09
Zr-97	1.0668E-01	5.5804E-11	3.4645E+14	3.9471E+09
Nb-95	1.3197E-01	3.3750E-09	2.1394E+16	4.8830E+09
Mo-99	1.5887E+00	3.3123E-09	2.0149E+16	5.8780E+10
Tc-99m	1.4529E+00	2.7631E-10	1.6808E+15	5.3758E+10
Ru-103	1.4570E+00	4.5144E-08	2.6395E+17	5.3909E+10
Ru-105	5.8307E-01	8.6740E-11	4.9748E+14	2.1573E+10
Ru-106	6.5913E-01	1.9702E-07	1.1193E+18	2.4388E+10
Rh-105	9.6633E-01	1.1449E-09	6.5663E+15	3.5754E+10
Sb-127	1.6288E+00	6.0991E-09	2.8921E+16	6.0264E+10
Sb-129	2.8180E+00	5.0111E-10	2.3394E+15	1.0426E+11
Te-127	1.6548E+00	6.2702E-10	2.9732E+15	6.1227E+10
Te-127m	2.8535E-01	3.0252E-08	1.4345E+17	1.0558E+10
Te-129	3.4252E+00	1.6356E-10	7.6353E+14	1.2673E+11
Te-129m	9.3311E-01	3.0974E-08	1.4460E+17	3.4525E+10
Te-131m	3.1678E+00	3.9726E-09	1.8262E+16	1.1721E+11
Te-132	2.3979E+01	7.8983E-08	3.6034E+17	8.8721E+11
I-131	9.4834E+02	7.6495E-06	3.5165E+19	3.5089E+13
I-132	2.2109E+02	2.1419E-08	9.7718E+16	8.1803E+12
I-133	1.0563E+03	9.3242E-07	4.2219E+18	3.9081E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.6041E+02	1.3110E-07	5.8483E+17	1.7035E+13
Xe-133	3.2300E+06	1.7256E-02	7.8133E+22	1.1951E+17
Xe-135	4.1817E+05	1.6375E-04	7.3046E+20	1.5472E+16
Cs-134	2.7070E+01	2.0922E-05	9.4028E+19	1.0016E+12
Cs-136	7.8471E+00	1.0707E-07	4.7410E+17	2.9034E+11
Cs-137	2.1807E+01	2.5071E-04	1.1020E+21	8.0685E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2944E+01	1.7681E-07	7.6055E+17	4.7893E+11
La-140	8.1617E-01	1.4684E-09	6.3163E+15	3.0198E+10
La-141	6.3551E-02	1.1237E-11	4.7995E+13	2.3514E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0708E-01	1.0777E-08	4.6030E+16	1.1362E+10
Ce-143	2.7488E-01	4.1393E-10	1.7432E+15	1.0171E+10
Ce-144	2.4707E-01	7.7463E-08	3.2395E+17	9.1415E+09
Pr-143	1.1985E-01	1.7799E-09	7.4955E+15	4.4346E+09
Nd-147	4.7518E-02	5.8738E-10	2.4063E+15	1.7582E+09
Np-239	3.4014E+00	1.4662E-08	3.6943E+16	1.2585E+11
Pu-238	1.0951E-03	6.3968E-08	1.6186E+17	4.0519E+07
Pu-239	9.5379E-05	1.5345E-06	3.8665E+18	3.5290E+06
Pu-240	1.7712E-04	7.7730E-07	1.9504E+18	6.5534E+06
Pu-241	3.7924E-02	3.6815E-07	9.1993E+17	1.4032E+09
Am-241	2.7432E-05	7.9926E-09	1.9972E+16	1.0150E+06
Cm-242	6.6953E-03	2.0201E-09	5.0271E+15	2.4773E+08
Cm-244	4.6844E-04	5.7902E-09	1.4291E+16	1.7332E+07

Environment Transport Group Inventory:

Time (h) = 72.0000	Total Release	Release Rate/s
Noble gases (atoms)	8.1028E+23	3.1261E+18
Elemental I (atoms)	3.0726E+18	1.1854E+13

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Organic I (atoms)      3.2083E+19  1.2378E+14
Aerosols (kg)          2.8540E-04  1.1011E-09
Dose Effective (Ci) I-131 (Thyroid)            1.1389E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      1.2781E+03
Total I  (Ci)                                  2.7558E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.3020E+23
Elemental I (atoms)    1.0277E+17  1.3487E+18
Organic I (atoms)      0.0000E+00  1.3176E+19
Aerosols (kg)          1.4421E-03  2.0001E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.2996E+23
Elemental I (atoms)    2.1290E+17  1.1751E+18
Organic I (atoms)      0.0000E+00  1.3156E+19
Aerosols (kg)          3.0626E-04  7.5516E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.5050E+23
Elemental I (atoms)    1.1173E+17  5.5308E+17
Organic I (atoms)      0.0000E+00  5.9155E+18
Aerosols (kg)          8.0168E-05  9.8780E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9097E+20
Elemental I (atoms)    2.6200E+15  1.3719E+14
Organic I (atoms)      1.2073E+16  1.3154E+14
Aerosols (kg)          2.4493E-07  1.6797E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.3948E+19
Elemental I (atoms)    0.0000E+00  7.8208E+14
Organic I (atoms)      0.0000E+00  2.6935E+15
Aerosols (kg)          0.0000E+00  8.0334E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  72.0000     Filtered   Transported
Noble gases (atoms)    3.5282E+20  0.0000E+00
Elemental I (atoms)    9.1143E+14  0.0000E+00
Organic I (atoms)      2.7978E+15  0.0000E+00
Aerosols (kg)          9.7122E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        9.8458E-01  1.7222E+01  1.5099E+00
Accumulated dose (rem)  1.8316E+01  1.2654E+02  2.2690E+01

Low Population Zone Doses:
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Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0591E-02  1.2174E-01  1.4305E-02
Accumulated dose (rem)  6.0817E-01  2.7439E+00  7.2034E-01

Control Room Doses:

Time (h) =  96.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.7006E-02  2.2932E+00  9.6961E-02
Accumulated dose (rem)  1.6524E+00  5.1463E+01  3.6856E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =  96.0000       Ci           kg         Atoms      Decay
Kr-85                  1.6646E+06  4.2429E+00  3.0060E+25  2.1322E+22
Kr-85m                 9.4696E+00  1.1507E-09  8.1525E+15  1.9789E+22
Kr-88                  4.8853E-03  3.8960E-13  2.6661E+12  3.1095E+22
Sr-90                  3.3172E-15  2.4318E-20  1.6272E+05  2.4968E+18
I-131                  2.5283E+04  2.0394E-04  9.3751E+20  6.1897E+20
I-132                  2.5408E-08  2.4615E-18  1.1230E+07  3.6144E+20
I-133                  3.0279E+03  2.6729E-06  1.2103E+19  7.4869E+20
I-135                  2.9741E+00  8.4688E-10  3.7778E+15  4.9278E+20
Xe-133                 9.3406E+07  4.9901E-01  2.2595E+24  1.5725E+24
Xe-135                 5.9693E+04  2.3375E-05  1.0427E+20  1.4726E+23
Cs-134                 7.4271E-14  5.7404E-20  2.5798E+05  5.6007E+19
Cs-137                 6.0027E-14  6.9011E-19  3.0335E+06  4.5113E+19
Pu-239                 2.6477E-19  4.2597E-21  1.0733E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) =  96.0000    Atmosphere     Sump
Noble gases (atoms)    3.2320E+25  0.0000E+00
Elemental I (atoms)    4.0266E+02  5.7222E+22
Organic I (atoms)      9.4962E+20  0.0000E+00
Aerosols (kg)          7.8392E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         9.5859E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   9.6995E-06
Total I (Ci)                                   2.8314E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4252E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.7091E+19
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.4252E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  1.7091E+19
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.2074E+23
Elemental I (atoms)    0.0000E+00  7.5404E+17
Organic I (atoms)      0.0000E+00  8.5299E+18
Aerosols (kg)          0.0000E+00  8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:
```

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2163E+18
Elemental I (atoms)	0.0000E+00	5.4182E+12
Organic I (atoms)	0.0000E+00	1.5542E+14
Aerosols (kg)	0.0000E+00	5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.9832E+11
Elemental I (atoms)	0.0000E+00	7.3332E+05
Organic I (atoms)	0.0000E+00	1.3479E+07
Aerosols (kg)	0.0000E+00	1.1176E-15

Environment Integral Nuclide Release:

Time (h) = 96.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2362E+16	2.1820E+08
Kr-85	5.1588E+04	1.3149E-01	9.3159E+23	1.9088E+15
Kr-85m	5.1213E+04	6.2230E-06	4.4089E+19	1.8949E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9449E+04	5.5385E-06	3.7902E+19	2.5696E+15
Rb-86	2.3469E-01	2.8844E-09	2.0198E+16	8.6836E+09
Sr-89	8.8333E+00	3.0405E-07	2.0573E+18	3.2683E+11
Sr-90	1.2030E+00	8.8190E-06	5.9010E+19	4.4510E+10
Sr-91	8.1224E+00	2.2407E-09	1.4828E+16	3.0053E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.3262E-02	9.7897E-11	6.5505E+14	1.9707E+09
Y-91	1.1669E-01	4.7584E-09	3.1490E+16	4.3177E+09
Y-92	1.8408E+00	1.9130E-10	1.2522E+15	6.8108E+10
Y-93	9.3657E-02	2.8072E-11	1.8178E+14	3.4653E+09
Zr-95	1.3204E-01	6.1465E-09	3.8963E+16	4.8856E+09
Zr-97	1.0668E-01	5.5804E-11	3.4645E+14	3.9471E+09
Nb-95	1.3197E-01	3.3750E-09	2.1394E+16	4.8830E+09
Mo-99	1.5887E+00	3.3124E-09	2.0149E+16	5.8780E+10
Tc-99m	1.4529E+00	2.7631E-10	1.6808E+15	5.3758E+10
Ru-103	1.4570E+00	4.5145E-08	2.6395E+17	5.3909E+10
Ru-105	5.8307E-01	8.6740E-11	4.9748E+14	2.1573E+10
Ru-106	6.5914E-01	1.9702E-07	1.1193E+18	2.4388E+10
Rh-105	9.6634E-01	1.1449E-09	6.5663E+15	3.5754E+10
Sb-127	1.6288E+00	6.0991E-09	2.8921E+16	6.0265E+10
Sb-129	2.8180E+00	5.0111E-10	2.3394E+15	1.0426E+11
Te-127	1.6548E+00	6.2702E-10	2.9733E+15	6.1227E+10
Te-127m	2.8535E-01	3.0252E-08	1.4345E+17	1.0558E+10
Te-129	3.4253E+00	1.6356E-10	7.6354E+14	1.2673E+11
Te-129m	9.3312E-01	3.0975E-08	1.4460E+17	3.4525E+10
Te-131m	3.1678E+00	3.9726E-09	1.8262E+16	1.1721E+11
Te-132	2.3979E+01	7.8983E-08	3.6034E+17	8.8721E+11
I-131	1.1239E+03	9.0658E-06	4.1676E+19	4.1585E+13
I-132	2.2109E+02	2.1419E-08	9.7720E+16	8.1805E+12
I-133	1.0867E+03	9.5925E-07	4.3434E+18	4.0206E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.6050E+02	1.3113E-07	5.8493E+17	1.7038E+13
Xe-133	3.8934E+06	2.0800E-02	9.4181E+22	1.4405E+17
Xe-135	4.1927E+05	1.6418E-04	7.3237E+20	1.5513E+16
Cs-134	2.7070E+01	2.0923E-05	9.4029E+19	1.0016E+12
Cs-136	7.8471E+00	1.0707E-07	4.7410E+17	2.9034E+11
Cs-137	2.1807E+01	2.5071E-04	1.1020E+21	8.0686E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2944E+01	1.7681E-07	7.6055E+17	4.7893E+11
La-140	8.1625E-01	1.4685E-09	6.3169E+15	3.0201E+10
La-141	6.3551E-02	1.1237E-11	4.7995E+13	2.3514E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0708E-01	1.0777E-08	4.6030E+16	1.1362E+10

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Ce-143                 2.7488E-01  4.1393E-10  1.7432E+15  1.0171E+10
Ce-144                 2.4707E-01  7.7464E-08  3.2396E+17  9.1416E+09
Pr-143                 1.1985E-01  1.7799E-09  7.4956E+15  4.4346E+09
Nd-147                 4.7519E-02  5.8739E-10  2.4063E+15  1.7582E+09
Np-239                 3.4014E+00  1.4662E-08  3.6944E+16  1.2585E+11
Pu-238                 1.0951E-03  6.3968E-08  1.6186E+17  4.0519E+07
Pu-239                 9.5380E-05  1.5345E-06  3.8665E+18  3.5290E+06
Pu-240                 1.7712E-04  7.7730E-07  1.9504E+18  6.5535E+06
Pu-241                 3.7924E-02  3.6815E-07  9.1994E+17  1.4032E+09
Am-241                 2.7432E-05  7.9927E-09  1.9972E+16  1.0150E+06
Cm-242                 6.6954E-03  2.0201E-09  5.0271E+15  2.4773E+08
Cm-244                 4.6845E-04  5.7903E-09  1.4291E+16  1.7333E+07

Environment Transport Group Inventory:

                         Total      Release
Time (h) =  96.0000     Release     Rate/s
Noble gases (atoms)    1.0266E+24  2.9704E+18
Elemental I (atoms)    3.0726E+18  8.8906E+12
Organic I (atoms)      3.8715E+19  1.1202E+14
Aerosols (kg)          2.8540E-04  8.2582E-10
Dose Effective (Ci) I-131 (Thyroid)            1.3195E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)      1.4619E+03
Total I  (Ci)                                  2.9619E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.1682E+23
Elemental I (atoms)    1.0277E+17  1.3487E+18
Organic I (atoms)      0.0000E+00  1.5842E+19
Aerosols (kg)          1.4421E-03  2.0002E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  4.1658E+23
Elemental I (atoms)    2.1290E+17  1.1751E+18
Organic I (atoms)      0.0000E+00  1.5822E+19
Aerosols (kg)          3.0626E-04  7.5516E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.9365E+23
Elemental I (atoms)    1.1180E+17  5.5310E+17
Organic I (atoms)      0.0000E+00  7.2436E+18
Aerosols (kg)          8.0188E-05  9.8805E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  3.4538E+20
Elemental I (atoms)    2.6200E+15  1.3719E+14
Organic I (atoms)      1.3731E+16  1.4828E+14
Aerosols (kg)          2.4493E-07  1.6798E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  7.5889E+19
Elemental I (atoms)    0.0000E+00  7.8208E+14
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Organic I (atoms)      0.0000E+00  3.0610E+15
Aerosols (kg)          0.0000E+00  8.0334E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) =  96.0000     Filtered   Transported
Noble gases (atoms)    4.1918E+20  0.0000E+00
Elemental I (atoms)    9.1143E+14  0.0000E+00
Organic I (atoms)      3.1821E+15  0.0000E+00
Aerosols (kg)          9.7122E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        3.6921E+00  7.3825E+01  5.9406E+00
Accumulated dose (rem)  2.2008E+01  2.0036E+02  2.8630E+01

Low Population Zone Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        1.0091E-02  1.3259E-01  1.4129E-02
Accumulated dose (rem)  6.1826E-01  2.8765E+00  7.3447E-01

Control Room Doses:

Time (h) = 240.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        5.5753E-02  5.4100E+00  2.2052E-01
Accumulated dose (rem)  1.7081E+00  5.6873E+01  3.9061E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000       Ci           kg         Atoms      Decay
Kr-85                  1.5981E+06  4.0732E+00  2.8858E+25  5.2604E+22
Kr-85m                 1.9191E-09  2.3320E-19  1.6522E+06  1.9789E+22
Sr-90                  3.3159E-15  2.4309E-20  1.6266E+05  2.4968E+18
I-131                  1.4485E+04  1.1684E-04  5.3711E+20  9.9075E+20
I-133                  2.3979E+01  2.1167E-08  9.5844E+16  7.6060E+20
I-135                  7.9087E-07  2.2520E-16  1.0046E+09  4.9279E+20
Xe-133                 4.0622E+07  2.1702E-01  9.8263E+23  2.7883E+24
Xe-135                 9.7706E-01  3.8260E-10  1.7067E+15  1.4736E+23
Cs-134                 7.3862E-14  5.7088E-20  2.5656E+05  5.6007E+19
Cs-137                 6.0004E-14  6.8985E-19  3.0324E+06  4.5113E+19
Pu-239                 2.6545E-19  4.2706E-21  1.0761E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 240.0000    Atmosphere     Sump
Noble gases (atoms)    2.9841E+25  0.0000E+00
Elemental I (atoms)    2.3701E+02  5.7222E+22
Organic I (atoms)      5.3721E+20  0.0000E+00
Aerosols (kg)          7.8226E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         5.3861E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   5.3870E-06
Total I (Ci)                                   1.4509E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  9.3579E+23
Elemental I (atoms)    0.0000E+00  1.5105E+18
Organic I (atoms)      0.0000E+00  2.8593E+19
Aerosols (kg)          0.0000E+00  1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

                         Pathway
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Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3579E+23
Elemental I (atoms)	0.0000E+00	1.5105E+18
Organic I (atoms)	0.0000E+00	2.8593E+19
Aerosols (kg)	0.0000E+00	1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6596E+23
Elemental I (atoms)	0.0000E+00	7.5404E+17
Organic I (atoms)	0.0000E+00	1.4248E+19
Aerosols (kg)	0.0000E+00	8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0136E+19
Elemental I (atoms)	0.0000E+00	5.4182E+12
Organic I (atoms)	0.0000E+00	2.9344E+14
Aerosols (kg)	0.0000E+00	5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.4112E+12
Elemental I (atoms)	0.0000E+00	1.4073E+06
Organic I (atoms)	0.0000E+00	5.8783E+07
Aerosols (kg)	0.0000E+00	2.8091E-15

Environment Integral Nuclide Release:

Time (h) = 240.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	1.1656E+05	2.9711E-01	2.1050E+24	4.3129E+15
Kr-85m	5.1213E+04	6.2230E-06	4.4089E+19	1.8949E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9449E+04	5.5385E-06	3.7902E+19	2.5696E+15
Rb-86	2.3469E-01	2.8844E-09	2.0198E+16	8.6836E+09
Sr-89	8.8333E+00	3.0405E-07	2.0573E+18	3.2683E+11
Sr-90	1.2030E+00	8.8190E-06	5.9010E+19	4.4510E+10
Sr-91	8.1224E+00	2.2407E-09	1.4828E+16	3.0053E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.3263E-02	9.7899E-11	6.5507E+14	1.9707E+09
Y-91	1.1669E-01	4.7584E-09	3.1490E+16	4.3177E+09
Y-92	1.8408E+00	1.9130E-10	1.2522E+15	6.8108E+10
Y-93	9.3657E-02	2.8072E-11	1.8178E+14	3.4653E+09
Zr-95	1.3204E-01	6.1465E-09	3.8963E+16	4.8856E+09
Zr-97	1.0668E-01	5.5804E-11	3.4645E+14	3.9471E+09
Nb-95	1.3197E-01	3.3750E-09	2.1394E+16	4.8830E+09
Mo-99	1.5887E+00	3.3124E-09	2.0149E+16	5.8780E+10
Tc-99m	1.4529E+00	2.7631E-10	1.6808E+15	5.3758E+10
Ru-103	1.4570E+00	4.5145E-08	2.6395E+17	5.3909E+10
Ru-105	5.8307E-01	8.6740E-11	4.9748E+14	2.1573E+10
Ru-106	6.5914E-01	1.9702E-07	1.1193E+18	2.4388E+10
Rh-105	9.6634E-01	1.1449E-09	6.5663E+15	3.5754E+10
Sb-127	1.6288E+00	6.0991E-09	2.8921E+16	6.0265E+10
Sb-129	2.8180E+00	5.0111E-10	2.3394E+15	1.0426E+11
Te-127	1.6548E+00	6.2703E-10	2.9733E+15	6.1227E+10
Te-127m	2.8535E-01	3.0252E-08	1.4345E+17	1.0558E+10
Te-129	3.4253E+00	1.6356E-10	7.6354E+14	1.2673E+11
Te-129m	9.3312E-01	3.0975E-08	1.4460E+17	3.4525E+10
Te-131m	3.1678E+00	3.9726E-09	1.8262E+16	1.1721E+11

Te-132	2.3979E+01	7.8983E-08	3.6034E+17	8.8721E+11
I-131	1.8948E+03	1.5284E-05	7.0259E+19	7.0107E+13
I-132	2.2109E+02	2.1419E-08	9.7720E+16	8.1805E+12
I-133	1.1110E+03	9.8072E-07	4.4406E+18	4.1106E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.6050E+02	1.3113E-07	5.8494E+17	1.7039E+13
Xe-133	6.4118E+06	3.4254E-02	1.5510E+23	2.3724E+17
Xe-135	4.1947E+05	1.6426E-04	7.3273E+20	1.5520E+16
Cs-134	2.7070E+01	2.0923E-05	9.4029E+19	1.0016E+12
Cs-136	7.8471E+00	1.0707E-07	4.7410E+17	2.9034E+11
Cs-137	2.1807E+01	2.5071E-04	1.1020E+21	8.0686E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2944E+01	1.7681E-07	7.6055E+17	4.7893E+11
La-140	8.1626E-01	1.4686E-09	6.3170E+15	3.0202E+10
La-141	6.3551E-02	1.1237E-11	4.7995E+13	2.3514E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0708E-01	1.0777E-08	4.6030E+16	1.1362E+10
Ce-143	2.7488E-01	4.1393E-10	1.7432E+15	1.0171E+10
Ce-144	2.4707E-01	7.7464E-08	3.2396E+17	9.1416E+09
Pr-143	1.1985E-01	1.7799E-09	7.4956E+15	4.4346E+09
Nd-147	4.7519E-02	5.8739E-10	2.4063E+15	1.7582E+09
Np-239	3.4014E+00	1.4662E-08	3.6944E+16	1.2585E+11
Pu-238	1.0951E-03	6.3969E-08	1.6186E+17	4.0520E+07
Pu-239	9.5380E-05	1.5345E-06	3.8665E+18	3.5290E+06
Pu-240	1.7712E-04	7.7731E-07	1.9504E+18	6.5535E+06
Pu-241	3.7924E-02	3.6815E-07	9.1994E+17	1.4032E+09
Am-241	2.7432E-05	7.9927E-09	1.9972E+16	1.0150E+06
Cm-242	6.6954E-03	2.0202E-09	5.0271E+15	2.4773E+08
Cm-244	4.6845E-04	5.7903E-09	1.4291E+16	1.7333E+07

Environment Transport Group Inventory:

Time (h) = 240.0000	Total Release	Release Rate/s	
Noble gases (atoms)	2.2609E+24	2.6167E+18	
Elemental I (atoms)	3.0726E+18	3.5562E+12	
Organic I (atoms)	6.7396E+19	7.8004E+13	
Aerosols (kg)	2.8540E-04	3.3033E-10	
Dose Effective (Ci) I-131 (Thyroid)			2.0944E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)			2.2392E+03
Total I (Ci)			3.7570E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.1103E+23
Elemental I (atoms)	1.0277E+17	1.3487E+18
Organic I (atoms)	0.0000E+00	2.7365E+19
Aerosols (kg)	1.4421E-03	2.0002E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.1080E+23
Elemental I (atoms)	2.1290E+17	1.1751E+18
Organic I (atoms)	0.0000E+00	2.7345E+19
Aerosols (kg)	3.0626E-04	7.5516E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

Time (h) = 240.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3986E+23
Elemental I (atoms)	1.1180E+17	5.5310E+17
Organic I (atoms)	0.0000E+00	1.2984E+19

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Aerosols (kg)          8.0190E-05  9.8808E-06

Filtered Intake to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  6.0130E+20
Elemental I (atoms)    2.6200E+15  1.3719E+14
Organic I (atoms)      1.9638E+16  2.0795E+14
Aerosols (kg)          2.4493E-07  1.6798E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3205E+20
Elemental I (atoms)    0.0000E+00  7.8208E+14
Organic I (atoms)      0.0000E+00  4.3704E+15
Aerosols (kg)          0.0000E+00  8.0334E-08

Control Room Exhaust to Environment Transport Group Inventory:

                         Pathway
Time (h) = 240.0000     Filtered   Transported
Noble gases (atoms)    7.3158E+20  0.0000E+00
Elemental I (atoms)    9.1143E+14  0.0000E+00
Organic I (atoms)      4.5530E+15  0.0000E+00
Aerosols (kg)          9.7122E-08  0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        2.6841E+00  8.3119E+01  5.2147E+00
Accumulated dose (rem)  2.4692E+01  2.8348E+02  3.3845E+01

Low Population Zone Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        7.3358E-03  1.4928E-01  1.1881E-02
Accumulated dose (rem)  6.2560E-01  3.0258E+00  7.4635E-01

Control Room Doses:

Time (h) = 720.0000    Whole Body   Thyroid       TEDE
Delta dose (rem)        4.0406E-02  6.0822E+00  2.2558E-01
Accumulated dose (rem)  1.7485E+00  6.2955E+01  4.1317E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000       Ci           kg         Atoms      Decay
Kr-85                  1.3948E+06  3.5552E+00  2.5188E+25  1.4812E+23
Sr-90                  3.3115E-15  2.4277E-20  1.6244E+05  2.4968E+18
I-131                  2.2623E+03  1.8248E-05  8.3888E+19  1.4116E+21
I-133                  2.3738E-06  2.0955E-15  9.4882E+09  7.6069E+20
Xe-133                 2.5313E+06  1.3523E-02  6.1233E+22  3.6656E+24
Cs-134                 7.2514E-14  5.6046E-20  2.5188E+05  5.6007E+19
Cs-137                 5.9928E-14  6.8897E-19  3.0285E+06  4.5113E+19
Pu-239                 2.6558E-19  4.2728E-21  1.0766E+04  1.9789E+14

Sprayed Drywell Transport Group Inventory:
Time (h) = 720.0000    Atmosphere     Sump
Noble gases (atoms)    2.5249E+25  0.0000E+00
Elemental I (atoms)    4.2250E+01  5.7222E+22
Organic I (atoms)      8.3888E+19  0.0000E+00
Aerosols (kg)          7.7883E-19  6.1615E+01
Dose Effective (Ci/cc) I-131 (Thyroid)         8.4098E-07
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)   8.4098E-07
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Total I (Ci) 2.2623E+03

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3849E+24
Elemental I (atoms)	0.0000E+00	1.5105E+18
Organic I (atoms)	0.0000E+00	4.1566E+19
Aerosols (kg)	0.0000E+00	1.6396E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3849E+24
Elemental I (atoms)	0.0000E+00	1.5105E+18
Organic I (atoms)	0.0000E+00	4.1566E+19
Aerosols (kg)	0.0000E+00	1.6396E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1864E+24
Elemental I (atoms)	0.0000E+00	7.5404E+17
Organic I (atoms)	0.0000E+00	2.0698E+19
Aerosols (kg)	0.0000E+00	8.1851E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7525E+19
Elemental I (atoms)	0.0000E+00	5.4182E+12
Organic I (atoms)	0.0000E+00	4.4912E+14
Aerosols (kg)	0.0000E+00	5.8815E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0061E+13
Elemental I (atoms)	0.0000E+00	2.2218E+06
Organic I (atoms)	0.0000E+00	1.9428E+08
Aerosols (kg)	0.0000E+00	8.4280E-15

Environment Integral Nuclide Release:

Time (h) = 720.0000	Ci	kg	Atoms	Bq
Co-58	4.9185E-03	1.5468E-10	1.6060E+15	1.8199E+08
Co-60	5.8972E-03	5.2170E-09	5.2363E+16	2.1820E+08
Kr-85	3.1497E+05	8.0280E-01	5.6877E+24	1.1654E+16
Kr-85m	5.1213E+04	6.2230E-06	4.4089E+19	1.8949E+15
Kr-87	1.1471E+04	4.0495E-07	2.8031E+18	4.2441E+14
Kr-88	6.9449E+04	5.5385E-06	3.7902E+19	2.5696E+15
Rb-86	2.3469E-01	2.8844E-09	2.0198E+16	8.6836E+09
Sr-89	8.8333E+00	3.0405E-07	2.0573E+18	3.2683E+11
Sr-90	1.2030E+00	8.8190E-06	5.9010E+19	4.4510E+10
Sr-91	8.1224E+00	2.2407E-09	1.4828E+16	3.0053E+11
Sr-92	4.6131E+00	3.6701E-10	2.4024E+15	1.7068E+11
Y-90	5.3263E-02	9.7899E-11	6.5507E+14	1.9707E+09
Y-91	1.1669E-01	4.7584E-09	3.1490E+16	4.3177E+09
Y-92	1.8408E+00	1.9130E-10	1.2522E+15	6.8108E+10
Y-93	9.3657E-02	2.8072E-11	1.8178E+14	3.4653E+09
Zr-95	1.3204E-01	6.1465E-09	3.8963E+16	4.8856E+09
Zr-97	1.0668E-01	5.5804E-11	3.4645E+14	3.9471E+09

Nb-95	1.3197E-01	3.3750E-09	2.1394E+16	4.8830E+09
Mo-99	1.5887E+00	3.3124E-09	2.0149E+16	5.8780E+10
Tc-99m	1.4529E+00	2.7631E-10	1.6808E+15	5.3758E+10
Ru-103	1.4570E+00	4.5145E-08	2.6395E+17	5.3909E+10
Ru-105	5.8307E-01	8.6740E-11	4.9748E+14	2.1573E+10
Ru-106	6.5914E-01	1.9702E-07	1.1193E+18	2.4388E+10
Rh-105	9.6634E-01	1.1449E-09	6.5663E+15	3.5754E+10
Sb-127	1.6288E+00	6.0991E-09	2.8921E+16	6.0265E+10
Sb-129	2.8180E+00	5.0111E-10	2.3394E+15	1.0426E+11
Te-127	1.6548E+00	6.2703E-10	2.9733E+15	6.1227E+10
Te-127m	2.8535E-01	3.0252E-08	1.4345E+17	1.0558E+10
Te-129	3.4253E+00	1.6356E-10	7.6354E+14	1.2673E+11
Te-129m	9.3312E-01	3.0975E-08	1.4460E+17	3.4525E+10
Te-131m	3.1678E+00	3.9726E-09	1.8262E+16	1.1721E+11
Te-132	2.3979E+01	7.8983E-08	3.6034E+17	8.8721E+11
I-131	2.7673E+03	2.2322E-05	1.0261E+20	1.0239E+14
I-132	2.2109E+02	2.1419E-08	9.7720E+16	8.1805E+12
I-133	1.1112E+03	9.8089E-07	4.4414E+18	4.1113E+13
I-134	6.9692E+01	2.6125E-09	1.1741E+16	2.5786E+12
I-135	4.6050E+02	1.3113E-07	5.8494E+17	1.7039E+13
Xe-133	8.2290E+06	4.3963E-02	1.9906E+23	3.0447E+17
Xe-135	4.1947E+05	1.6426E-04	7.3273E+20	1.5520E+16
Cs-134	2.7070E+01	2.0923E-05	9.4029E+19	1.0016E+12
Cs-136	7.8471E+00	1.0707E-07	4.7410E+17	2.9034E+11
Cs-137	2.1807E+01	2.5071E-04	1.1020E+21	8.0686E+11
Ba-139	2.8955E+00	1.7702E-10	7.6693E+14	1.0713E+11
Ba-140	1.2944E+01	1.7681E-07	7.6055E+17	4.7893E+11
La-140	8.1626E-01	1.4686E-09	6.3170E+15	3.0202E+10
La-141	6.3551E-02	1.1237E-11	4.7995E+13	2.3514E+09
La-142	2.9441E-02	2.0566E-12	8.7220E+12	1.0893E+09
Ce-141	3.0708E-01	1.0777E-08	4.6030E+16	1.1362E+10
Ce-143	2.7488E-01	4.1393E-10	1.7432E+15	1.0171E+10
Ce-144	2.4707E-01	7.7464E-08	3.2396E+17	9.1416E+09
Pr-143	1.1985E-01	1.7799E-09	7.4956E+15	4.4346E+09
Nd-147	4.7519E-02	5.8739E-10	2.4063E+15	1.7582E+09
Np-239	3.4014E+00	1.4662E-08	3.6944E+16	1.2585E+11
Pu-238	1.0951E-03	6.3969E-08	1.6186E+17	4.0520E+07
Pu-239	9.5380E-05	1.5345E-06	3.8665E+18	3.5290E+06
Pu-240	1.7712E-04	7.7731E-07	1.9504E+18	6.5535E+06
Pu-241	3.7924E-02	3.6815E-07	9.1994E+17	1.4032E+09
Am-241	2.7432E-05	7.9927E-09	1.9972E+16	1.0150E+06
Cm-242	6.6954E-03	2.0202E-09	5.0271E+15	2.4773E+08
Cm-244	4.6845E-04	5.7903E-09	1.4291E+16	1.7333E+07

Environment Transport Group Inventory:

Time (h) = 720.0000	Total Release	Release Rate/s
Noble gases (atoms)	5.8876E+24	2.2715E+18
Elemental I (atoms)	3.0726E+18	1.1854E+12
Organic I (atoms)	9.9752E+19	3.8484E+13
Aerosols (kg)	2.8540E-04	1.1011E-10

Dose Effective (Ci) I-131 (Thyroid)	2.9670E+03
Dose Effective (Ci) I-131 (ICRP2 Thyroid)	3.1118E+03
Total I (Ci)	4.6298E+03

MSIV Failed Control Vol 1 to Environment Transport Group Inventory:

Time (h) = 720.0000	Pathway Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3629E+24
Elemental I (atoms)	1.0277E+17	1.3487E+18
Organic I (atoms)	0.0000E+00	4.0363E+19
Aerosols (kg)	1.4421E-03	2.0002E-04

Intact Control Volume 3 to Environment Transport Group Inventory:

```
                          Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.3627E+24
Elemental I (atoms)    2.1290E+17  1.1751E+18
Organic I (atoms)      0.0000E+00  4.0343E+19
Aerosols (kg)          3.0626E-04  7.5516E-05

Intact Control Volume 5 to Environment Transport Group Inventory:

                          Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.1632E+24
Elemental I (atoms)    1.1180E+17  5.5310E+17
Organic I (atoms)      0.0000E+00  1.9460E+19
Aerosols (kg)          8.0190E-05  9.8808E-06

Filtered Intake to Control Room Transport Group Inventory:

                          Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  1.3531E+21
Elemental I (atoms)    2.6200E+15  1.3719E+14
Organic I (atoms)      2.6302E+16  2.7526E+14
Aerosols (kg)          2.4493E-07  1.6798E-08

Unfiltered Inleakage to Control Room Transport Group Inventory:

                          Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    0.0000E+00  2.9703E+20
Elemental I (atoms)    0.0000E+00  7.8208E+14
Organic I (atoms)      0.0000E+00  5.8475E+15
Aerosols (kg)          0.0000E+00  8.0334E+08

Control Room Exhaust to Environment Transport Group Inventory:

                          Pathway
Time (h) = 720.0000     Filtered   Transported
Noble gases (atoms)    1.6485E+21  0.0000E+00
Elemental I (atoms)    9.1143E+14  0.0000E+00
Organic I (atoms)      6.0976E+15  0.0000E+00
Aerosols (kg)          9.7122E-08  0.0000E+00

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#####################################################################
                              I-131 Summary
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              Sprayed Drywell    MSIV Failed Control V Intact Control Volume
Time (hr)    I-131 (Curies)         I-131 (Curies)       I-131 (Curies)
   0.000       4.5627E+03             0.0000E+00           0.0000E+00
   0.033       2.7346E+05             0.0000E+00           0.0000E+00
   0.167       1.3682E+06             4.0099E+01           3.9784E+01
   0.500       5.5746E+05             1.1518E+02           1.1094E+02
   0.667       8.8940E+05             1.5326E+02           1.4621E+02
   1.000       9.2445E+05             2.3526E+02           2.2050E+02
   1.160       9.2746E+05             2.7056E+02           2.5133E+02
   1.410       9.3186E+05             3.2066E+02           2.9378E+02
   1.660       9.3623E+05             3.6523E+02           3.3017E+02
   1.910       9.4059E+05             4.0492E+02           3.6142E+02
   2.000       9.4215E+05             4.1813E+02           3.7157E+02
   2.200       8.1608E+04             4.0771E+02           3.5736E+02
   2.250       5.7828E+04             4.0245E+02           3.5125E+02
   2.300       4.6593E+04             3.9708E+02           3.4507E+02
   2.350       4.1283E+04             3.9171E+02           3.3892E+02
   2.700       3.6510E+04             3.5579E+02           2.9862E+02
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3.000	3.6440E+04	3.2778E+02	2.6812E+02
3.300	3.6394E+04	3.0216E+02	2.4096E+02
3.600	3.6349E+04	2.7871E+02	2.1678E+02
3.900	3.6304E+04	2.5726E+02	1.9525E+02
4.000	3.6289E+04	2.5053E+02	1.8861E+02
4.300	3.6244E+04	2.3148E+02	1.7017E+02
4.600	3.6199E+04	2.1404E+02	1.5375E+02
4.900	3.6154E+04	1.9809E+02	1.3913E+02
5.200	3.6109E+04	1.8350E+02	1.2611E+02
5.500	3.6064E+04	1.7015E+02	1.1452E+02
5.800	3.6019E+04	1.5793E+02	1.0420E+02
6.100	3.5975E+04	1.4675E+02	9.5007E+01
6.400	3.5930E+04	1.3652E+02	8.6822E+01
6.700	3.5885E+04	1.2716E+02	7.9532E+01
7.000	3.5841E+04	1.1859E+02	7.3040E+01
7.300	3.5796E+04	1.1075E+02	6.7257E+01
7.600	3.5752E+04	1.0358E+02	6.2107E+01
7.900	3.5707E+04	9.7014E+01	5.7519E+01
8.000	3.5693E+04	9.4951E+01	5.6104E+01
8.300	3.5648E+04	8.9117E+01	5.2171E+01
8.600	3.5604E+04	8.3777E+01	4.8668E+01
8.900	3.5560E+04	7.8889E+01	4.5546E+01
9.200	3.5516E+04	7.4415E+01	4.2764E+01
9.500	3.5471E+04	7.0319E+01	4.0285E+01
9.800	3.5427E+04	6.6570E+01	3.8075E+01
10.100	3.5383E+04	6.3137E+01	3.6105E+01
10.400	3.5339E+04	5.9994E+01	3.4349E+01
24.000	3.3403E+04	2.5735E+01	1.9269E+01
48.000	3.0442E+04	2.3019E+01	1.7563E+01
72.000	2.7743E+04	2.0967E+01	1.6006E+01
96.000	2.5283E+04	1.9108E+01	1.4587E+01
240.000	1.4485E+04	1.0947E+01	8.3569E+00
720.000	2.2623E+03	1.7097E+00	1.3052E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.3921E-01	2.0217E+01	4.7172E-02
0.500	3.8639E+00	6.0298E+01	6.2713E-01
0.667	5.9750E+00	8.1261E+01	1.0422E+00
1.000	1.1200E+01	1.2774E+02	2.1872E+00
1.160	1.3919E+01	1.4870E+02	2.8576E+00
1.410	1.8142E+01	1.7961E+02	4.0162E+00
1.660	2.2166E+01	2.0843E+02	5.2723E+00
1.910	2.5901E+01	2.3530E+02	6.5924E+00
2.000	2.7167E+01	2.4452E+02	7.0782E+00
2.200	2.8542E+01	2.4272E+02	7.6873E+00
2.250	2.8781E+01	2.4089E+02	7.8270E+00
2.300	2.8980E+01	2.3898E+02	7.9612E+00
2.350	2.9138E+01	2.3705E+02	8.0899E+00
2.700	2.9349E+01	2.2377E+02	8.8510E+00
3.000	2.8652E+01	2.1301E+02	9.3352E+00
3.300	2.7488E+01	2.0282E+02	9.6937E+00
3.600	2.6073E+01	1.9318E+02	9.9497E+00
3.900	2.4549E+01	1.8405E+02	1.0122E+01
4.000	2.4033E+01	1.8112E+02	1.0164E+01
4.300	2.2500E+01	1.7263E+02	1.0249E+01
4.600	2.1019E+01	1.6459E+02	1.0284E+01
4.900	1.9621E+01	1.5698E+02	1.0279E+01
5.200	1.8320E+01	1.4977E+02	1.0241E+01
5.500	1.7122E+01	1.4295E+02	1.0179E+01
5.800	1.6027E+01	1.3649E+02	1.0097E+01
6.100	1.5033E+01	1.3037E+02	1.0001E+01
6.400	1.4134E+01	1.2458E+02	9.8941E+00
6.700	1.3324E+01	1.1909E+02	9.7794E+00
7.000	1.2595E+01	1.1390E+02	9.6596E+00

7.300	1.1940E+01	1.0898E+02	9.5367E+00
7.600	1.1354E+01	1.0432E+02	9.4124E+00
7.900	1.0829E+01	9.9909E+01	9.2881E+00
8.000	1.0666E+01	9.8491E+01	9.2468E+00
8.300	1.0211E+01	9.4389E+01	9.1213E+00
8.600	9.8048E+00	9.0504E+01	8.9984E+00
8.900	9.4421E+00	8.6825E+01	8.8786E+00
9.200	9.1182E+00	8.3341E+01	8.7621E+00
9.500	8.8289E+00	8.0041E+01	8.6492E+00
9.800	8.5704E+00	7.6915E+01	8.5401E+00
10.100	8.3394E+00	7.3955E+01	8.4348E+00
10.400	8.1329E+00	7.1152E+01	8.3335E+00
24.000	6.1756E+00	2.4777E+01	6.3547E+00
48.000	5.6422E+00	1.9145E+01	5.6335E+00
72.000	5.1422E+00	1.7082E+01	5.1155E+00
96.000	4.6863E+00	1.5528E+01	4.6600E+00
240.000	2.6849E+00	8.8934E+00	2.6697E+00
720.000	4.1933E-01	1.3890E+00	4.1696E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6810E-09
0.033	0.0000E+00	0.0000E+00	6.0388E-06
0.167	1.7899E-01	5.7702E-04	1.5125E-04
0.500	2.9533E+00	6.1826E-03	4.6605E-04
0.667	5.3698E+00	9.4327E-03	6.3946E-04
1.000	1.2904E+01	6.9861E-03	1.0433E-03
1.160	1.7857E+01	6.4916E-03	1.2392E-03
1.410	2.7309E+01	6.3013E-03	1.5462E-03
1.660	3.8795E+01	6.5976E-03	1.8544E-03
1.910	5.2238E+01	7.2014E-03	2.1638E-03
2.000	5.7541E+01	7.4695E-03	2.2755E-03
2.200	6.4710E+01	6.6569E-03	2.3596E-03
2.250	6.6511E+01	6.4935E-03	2.3637E-03
2.300	6.8311E+01	6.3426E-03	2.3667E-03
2.350	7.0109E+01	6.2032E-03	2.3692E-03
2.700	8.2591E+01	5.4711E-03	2.3837E-03
3.000	9.3069E+01	5.0666E-03	2.3957E-03
3.300	1.0328E+02	4.7753E-03	2.4076E-03
3.600	1.1321E+02	4.5494E-03	2.4195E-03
3.900	1.2284E+02	4.3621E-03	2.4314E-03
4.000	1.2598E+02	4.3055E-03	2.4354E-03
4.300	1.3522E+02	4.1487E-03	2.4473E-03
4.600	1.4418E+02	4.0066E-03	2.4591E-03
4.900	1.5287E+02	3.8763E-03	2.4709E-03
5.200	1.6131E+02	3.7558E-03	2.4826E-03
5.500	1.6952E+02	3.6443E-03	2.4944E-03
5.800	1.7752E+02	3.5412E-03	2.5061E-03
6.100	1.8532E+02	3.4460E-03	2.5177E-03
6.400	1.9294E+02	3.3583E-03	2.5294E-03
6.700	2.0040E+02	3.2776E-03	2.5410E-03
7.000	2.0771E+02	3.2036E-03	2.5526E-03
7.300	2.1488E+02	3.1358E-03	2.5641E-03
7.600	2.2192E+02	3.0737E-03	2.5756E-03
7.900	2.2885E+02	3.0170E-03	2.5871E-03
8.000	2.3113E+02	2.9992E-03	2.5909E-03
8.300	2.3789E+02	2.3071E-03	2.6024E-03
8.600	2.4456E+02	1.8764E-03	2.6138E-03
8.900	2.5115E+02	1.6066E-03	2.6252E-03
9.200	2.5766E+02	1.4359E-03	2.6365E-03
9.500	2.6410E+02	1.3264E-03	2.6479E-03
9.800	2.7047E+02	1.2550E-03	2.6591E-03
10.100	2.7680E+02	1.2072E-03	2.6704E-03
10.400	2.8306E+02	1.1743E-03	2.6816E-03
24.000	5.4437E+02	9.9392E-04	3.1604E-03
48.000	7.5568E+02	2.9888E-04	3.8736E-03
72.000	9.4834E+02	2.7238E-04	4.4409E-03

96.000	1.1239E+03	2.4823E-04	4.8822E-03
240.000	1.8948E+03	1.1723E-04	5.7333E-03
720.000	2.7673E+03	1.8309E-05	2.5623E-03

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#####################################################################
                        Cumulative Dose Summary
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	Exclusion Area Bounda		Low Population Zone		Control Room	
Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.4225E-02	1.2696E-03	2.5384E-03	1.3303E-04	2.2470E-02	9.4112E-04
0.500	3.9846E-01	2.2783E-02	4.1751E-02	2.3872E-03	9.3372E-01	3.8912E-02
0.667	7.2419E-01	4.5036E-02	7.5881E-02	4.7190E-03	2.0234E+00	8.4720E-02
1.000	1.7452E+00	1.4321E-01	1.8287E-01	1.5005E-02	4.2741E+00	1.8310E-01
1.160	2.4168E+00	2.2629E-01	2.5324E-01	2.3711E-02	5.1748E+00	2.2530E-01
1.410	3.6980E+00	4.1642E-01	3.8748E-01	4.3633E-02	6.5063E+00	2.9377E-01
1.660	5.2525E+00	6.9087E-01	5.5036E-01	7.2390E-02	7.8536E+00	3.7223E-01
1.910	7.0678E+00	1.0583E+00	7.4057E-01	1.1089E-01	9.2981E+00	4.6646E-01
2.000	7.7826E+00	1.2144E+00	8.1546E-01	1.2724E-01	9.8522E+00	5.0504E-01
2.200	8.7481E+00	1.4365E+00	8.5739E-01	1.3689E-01	1.1035E+01	5.9010E-01
2.250	8.9901E+00	1.4940E+00	8.6790E-01	1.3939E-01	1.1310E+01	6.1025E-01
2.300	9.2318E+00	1.5524E+00	8.7840E-01	1.4192E-01	1.1579E+01	6.3007E-01
2.350	9.4731E+00	1.6115E+00	8.8888E-01	1.4449E-01	1.1842E+01	6.4959E-01
2.700	1.1143E+01	2.0463E+00	9.6141E-01	1.6337E-01	1.3541E+01	7.8034E-01
3.000	1.2539E+01	2.4406E+00	1.0220E+00	1.8049E-01	1.4855E+01	8.8717E-01
3.300	1.3893E+01	2.8480E+00	1.0808E+00	1.9819E-01	1.6079E+01	9.9140E-01
3.600	1.5203E+01	3.2635E+00	1.1377E+00	2.1623E-01	1.7234E+01	1.0939E+00
3.900	1.6469E+01	3.6826E+00	1.1927E+00	2.3443E-01	1.8334E+01	1.1950E+00
4.000	1.6881E+01	3.8224E+00	1.2106E+00	2.4050E-01	1.8690E+01	1.2283E+00
4.300	1.8088E+01	4.2407E+00	1.2630E+00	2.5866E-01	1.9729E+01	1.3273E+00
4.600	1.9254E+01	4.6551E+00	1.3136E+00	2.7666E-01	2.0726E+01	1.4245E+00
4.900	2.0380E+01	5.0634E+00	1.3625E+00	2.9439E-01	2.1686E+01	1.5197E+00
5.200	2.1470E+01	5.4641E+00	1.4099E+00	3.1179E-01	2.2612E+01	1.6126E+00
5.500	2.2526E+01	5.8558E+00	1.4557E+00	3.2880E-01	2.3506E+01	1.7031E+00
5.800	2.3550E+01	6.2376E+00	1.5002E+00	3.4538E-01	2.4371E+01	1.7912E+00
6.100	2.4546E+01	6.6088E+00	1.5434E+00	3.6151E-01	2.5209E+01	1.8767E+00
6.400	2.5515E+01	6.9692E+00	1.5855E+00	3.7715E-01	2.6022E+01	1.9596E+00
6.700	2.6459E+01	7.3184E+00	1.6265E+00	3.9232E-01	2.6811E+01	2.0399E+00
7.000	2.7381E+01	7.6564E+00	1.6666E+00	4.0700E-01	2.7580E+01	2.1177E+00
7.300	2.8283E+01	7.9832E+00	1.7057E+00	4.2119E-01	2.8329E+01	2.1929E+00
7.600	2.9166E+01	8.2991E+00	1.7441E+00	4.3490E-01	2.9060E+01	2.2657E+00
7.900	3.0031E+01	8.6041E+00	1.7816E+00	4.4815E-01	2.9775E+01	2.3362E+00
8.000	3.0316E+01	8.7034E+00	1.7940E+00	4.5246E-01	3.0009E+01	2.3592E+00
8.300	3.1157E+01	8.9943E+00	1.8061E+00	4.6018E-01	3.0624E+01	2.4186E+00
8.600	3.1983E+01	9.2751E+00	1.8180E+00	4.6762E-01	3.1108E+01	2.4646E+00
8.900	3.2797E+01	9.5461E+00	1.8297E+00	4.7481E-01	3.1510E+01	2.5023E+00
9.200	3.3600E+01	9.8078E+00	1.8412E+00	4.8173E-01	3.1861E+01	2.5347E+00
9.500	3.4391E+01	1.0060E+01	1.8526E+00	4.8842E-01	3.2179E+01	2.5637E+00
9.800	3.5172E+01	1.0304E+01	1.8639E+00	4.9487E-01	3.2475E+01	2.5903E+00
10.100	3.5945E+01	1.0540E+01	1.8750E+00	5.0110E-01	3.2758E+01	2.6153E+00
10.400	3.6708E+01	1.0768E+01	1.8860E+00	5.0711E-01	3.3030E+01	2.6390E+00
24.000	6.7192E+01	1.6859E+01	2.3244E+00	6.6432E-01	4.3353E+01	3.3228E+00
48.000	8.9851E+01	1.9386E+01	2.4846E+00	6.8893E-01	4.6577E+01	3.4765E+00
72.000	1.0932E+02	2.1180E+01	2.6222E+00	7.0603E-01	4.9169E+01	3.5886E+00
96.000	1.2654E+02	2.2690E+01	2.7439E+00	7.2034E-01	5.1463E+01	3.6856E+00
240.000	2.0036E+02	2.8630E+01	2.8765E+00	7.3447E-01	5.6873E+01	3.9061E+00
720.000	2.8348E+02	3.3845E+01	3.0258E+00	7.4635E-01	6.2955E+01	4.1317E+00

```
#####################################################################
                        Worst Two-Hour Doses
#####################################################################
```

Exclusion Area Boundary

Time	Whole Body	Thyroid	TEDE

```
(hr)      (rem)         (rem)          (rem)
 3.0   2.3846E+00   8.2048E+00   2.7564E+00
```

Attachment 12.6c - RADTRAD Nuclide Inventory File "DQLOCA_GNF3.nif" (GNF3 Fuel)

```
Nuclide Inventory Name: Dresden/Quad NIF File - GNF3
 Normalized data
 Power Level:
  0.1000E+01
 Nuclides:
  60
 Nuclide 001:
 Co-58
   7
  0.6117120000E+07
  0.5800E+02
  0.1529E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 002:
 Co-60
   7
  0.1663401096E+09
  0.6000E+02
  0.1830E+03
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 003:
 Kr-85
   1
  0.3382974720E+09
  0.8500E+02
  5.7060E+02
 none     0.0000E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 004:
 Kr-85m
   1
  0.1612800000E+05
  0.8500E+02
  9.1570E+03
 Kr-85    0.2100E+00
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 005:
 Kr-87
   1
  0.4578000000E+04
  0.8700E+02
  1.8520E+04
 Rb-87    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 006:
 Kr-88
   1
  0.1022400000E+05
  0.8800E+02
  2.5080E+04
 Rb-88    0.1000E+01
 none     0.0000E+00
 none     0.0000E+00
 Nuclide 007:
 Rb-86
   3
  0.1612224000E+07
```

```
 0.8600E+02
 6.7530E+01
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 008:
Sr-89
  5
 0.4363200000E+07
 0.8900E+02
 3.4350E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 009:
Sr-90
  5
 0.9189573120E+09
 0.9000E+02
 4.6660E+03
Y-90     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 010:
Sr-91
  5
 0.3420000000E+05
 0.9100E+02
 4.2570E+04
Y-91m    0.5800E+00
Y-91     0.4200E+00
none     0.0000E+00
Nuclide 011:
Sr-92
  5
 0.9756000000E+04
 0.9200E+02
 4.4110E+04
Y-92     0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 012:
Y-90
  9
 0.2304000000E+06
 0.9000E+02
 4.8000E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 013:
Y-91
  9
 0.5055264000E+07
 0.9100E+02
 4.3230E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 014:
Y-92
  9
 0.1274400000E+05
 0.9200E+02
 4.4630E+04
none     0.0000E+00
none     0.0000E+00
```

```
none     0.0000E+00
Nuclide 015:
Y-93
  9
 0.3636000000E+05
 0.9300E+02
 4.8280E+04
Zr-93    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 016:
Zr-95
  9
 0.5527872000E+07
 0.9500E+02
 5.1320E+04
Nb-95m   0.7000E-02
Nb-95    0.9900E+00
none     0.0000E+00
Nuclide 017:
Zr-97
  9
 0.6084000000E+05
 0.9700E+02
 4.9310E+04
Nb-97m   0.9500E+00
Nb-97    0.5300E-01
none     0.0000E+00
Nuclide 018:
Nb-95
  9
 0.3036960000E+07
 0.9500E+02
 5.1190E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 019:
Mo-99
  7
 0.2376000000E+06
 0.9900E+02
 5.1650E+04
Tc-99m   0.8800E+00
Tc-99    0.1200E+00
none     0.0000E+00
Nuclide 020:
Tc-99m
  7
 0.2167200000E+05
 0.9900E+02
 4.5690E+04
Tc-99    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 021:
Ru-103
  7
 0.3393792000E+07
 0.1030E+03
 4.5360E+04
Rh-103m  0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 022:
Ru-105
  7
```

```
 0.1598400000E+05
 0.1050E+03
 3.2800E+04
Rh-105   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 023:
Ru-106
  7
 0.3181248000E+08
 0.1060E+03
 2.0460E+04
Rh-106   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 024:
Rh-105
  7
 0.1272960000E+06
 0.1050E+03
 3.0800E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 025:
Sb-127
  4
 0.3326400000E+06
 0.1270E+03
 2.6130E+03
Te-127m  0.1800E+00
Te-127   0.8200E+00
none     0.0000E+00
Nuclide 026:
Sb-129
  4
 0.1555200000E+05
 0.1290E+03
 8.0400E+03
Te-129m  0.2200E+00
Te-129   0.7700E+00
none     0.0000E+00
Nuclide 027:
Te-127
  4
 0.3366000000E+05
 0.1270E+03
 2.5810E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 028:
Te-127m
  4
 0.9417600000E+07
 0.1270E+03
 4.4270E+02
Te-127   0.9800E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 029:
Te-129
  4
 0.4176000000E+04
 0.1290E+03
 7.5370E+03
I-129    0.1000E+01
```

```
none     0.0000E+00
none     0.0000E+00
Nuclide 030:
Te-129m
  4
 0.2903040000E+07
 0.1290E+03
 1.4490E+03
Te-129   0.6500E+00
I-129    0.3500E+00
none     0.0000E+00
Nuclide 031:
Te-131m
  4
 0.1080000000E+06
 0.1310E+03
 5.4370E+03
Te-131   0.2200E+00
I-131    0.7800E+00
none     0.0000E+00
Nuclide 032:
Te-132
  4
 0.2815200000E+06
 0.1320E+03
 3.8700E+04
I-132    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 033:
I-131
  2
 0.6946560000E+06
 0.1310E+03
 2.7230E+04
Xe-131m  0.1100E-01
none     0.0000E+00
none     0.0000E+00
Nuclide 034:
I-132
  2
 0.8280000000E+04
 0.1320E+03
 3.9760E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 035:
I-133
  2
 0.7488000000E+05
 0.1330E+03
 5.6680E+04
Xe-133m  0.2900E-01
Xe-133   0.9700E+00
none     0.0000E+00
Nuclide 036:
I-134
  2
 0.3156000000E+04
 0.1340E+03
 6.4970E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 037:
I-135
```

```
  2
 0.2379600000E+05
 0.1350E+03
 5.3490E+04
Xe-135m  0.1500E+00
Xe-135   0.8500E+00
none     0.0000E+00
Nuclide 038:
Xe-133
  1
 0.4531680000E+06
 0.1330E+03
 5.3930E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 039:
Xe-135
  1
 0.3272400000E+05
 0.1350E+03
 2.6750E+04
Cs-135   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 040:
Cs-134
  3
 0.6507177120E+08
 0.1340E+03
 7.7410E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 041:
Cs-136
  3
 0.1131840000E+07
 0.1360E+03
 2.2640E+03
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 042:
Cs-137
  3
 0.9467280000E+09
 0.1370E+03
 6.2350E+03
Ba-137m  0.9500E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 043:
Ba-139
  6
 0.4962000000E+04
 0.1390E+03
 5.2250E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 044:
Ba-140
  6
 0.1100736000E+07
 0.1400E+03
 5.0720E+04
```

```
La-140   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 045:
La-140
  9
 0.1449792000E+06
 0.1400E+03
 5.1060E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 046:
La-141
  9
 0.1414800000E+05
 0.1410E+03
 4.7730E+04
Ce-141   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 047:
La-142
  9
 0.5550000000E+04
 0.1420E+03
 4.6850E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 048:
Ce-141
  8
 0.2808086400E+07
 0.1410E+03
 4.7760E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 049:
Ce-143
  8
 0.1188000000E+06
 0.1430E+03
 4.6760E+04
Pr-143   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 050:
Ce-144
  8
 0.2456352000E+08
 0.1440E+03
 3.8350E+04
Pr-144m  0.1800E-01
Pr-144   0.9800E+00
none     0.0000E+00
Nuclide 051:
Pr-143
  9
 0.1171584000E+07
 0.1430E+03
 4.6070E+04
none     0.0000E+00
none     0.0000E+00
none     0.0000E+00
Nuclide 052:
```

```
Nd-147
  9
 0.9486720000E+06
 0.1470E+03
 1.8650E+04
Pm-147   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 053:
Np-239
  8
 0.2034720000E+06
 0.2390E+03
 5.5720E+05
Pu-239   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 054:
Pu-238
  8
 0.2768863824E+10
 0.2380E+03
 1.6990E+02
U-234    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 055:
Pu-239
  8
 0.7594336440E+12
 0.2390E+03
 1.4790E+01
U-235    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 056:
Pu-240
  8
 0.2062920312E+12
 0.2400E+03
 2.7480E+01
U-236    0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 057:
Pu-241
  8
 0.4544294400E+09
 0.2410E+03
 5.8840E+03
U-237    0.2400E-04
Am-241   0.1000E+01
none     0.0000E+00
Nuclide 058:
Am-241
  9
 0.1363919472E+11
 0.2410E+03
 1.0630E+01
Np-237   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 059:
Cm-242
  9
 0.1406592000E+08
 0.2420E+03
```

```
 2.5990E+03
Pu-238   0.1000E+01
none     0.0000E+00
none     0.0000E+00
Nuclide 060:
Cm-244
  9
 0.5715081360E+09
 0.2440E+03
 1.8170E+02
Pu-240   0.1000E+01
none     0.0000E+00
none     0.0000E+00
End of Nuclear Inventory File
```

Attachment 12.7c - Microshield Output Files (GNF3 Fuel)

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE667_GNF3.msd	August 4, 2019	9:52:30 PM	00:00:02

Project Info

Case Title	Case 1
Description	Containment Shine CR Dose Rate @ T=0.667 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

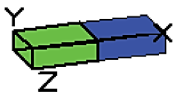
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	3.8600e-005	1.4282e+006	1.7936e-009	6.6365e-005
Ba-137m	1.4663e+002	5.4253e+012	6.8135e-003	2.5210e+002
Ba-139	1.3600e+001	5.0320e+011	6.3195e-004	2.3382e+001
Ba-140	1.8400e+001	6.8080e+011	8.5500e-004	3.1635e+001
Ce-141	4.3300e-001	1.6021e+010	2.0120e-005	7.4445e-001
Ce-143	4.1800e-001	1.5466e+010	1.9423e-005	7.1866e-001
Ce-144	3.4800e-001	1.2876e+010	1.6171e-005	5.9831e-001
Cm-242	9.4300e-003	3.4891e+008	4.3819e-007	1.6213e-002
Cm-244	6.5900e-004	2.4383e+007	3.0622e-008	1.1330e-003
Co-58	6.9300e-003	2.5641e+008	3.2202e-007	1.1915e-002
Co-60	8.3000e-003	3.0710e+008	3.8568e-007	1.4270e-002
Cs-134	1.9200e+002	7.1040e+012	8.9217e-003	3.3010e+002
Cs-136	5.6100e+001	2.0757e+012	2.6068e-003	9.6452e+001
Cs-137	1.5500e+002	5.7350e+012	7.2024e-003	2.6649e+002
I-131	7.2800e+002	2.6936e+013	3.3828e-002	1.2516e+003
I-132	9.4000e+002	3.4780e+013	4.3679e-002	1.6161e+003
I-133	1.4900e+003	5.5130e+013	6.9236e-002	2.5617e+003
I-134	1.0300e+003	3.8110e+013	4.7861e-002	1.7709e+003
I-135	1.3400e+003	4.9580e+013	6.2266e-002	2.3038e+003
Kr-85	6.2300e+001	2.3051e+012	2.8949e-003	1.0711e+002
Kr-85m	9.0200e+002	3.3374e+013	4.1913e-002	1.5508e+003
Kr-87	1.4100e+003	5.2170e+013	6.5519e-002	2.4242e+003
Kr-88	2.3300e+003	8.6210e+013	1.0827e-001	4.0059e+003

La-140	2.1900e-001	8.1030e+009	1.0176e-005	3.7652e-001
La-141	1.5400e-001	5.6980e+009	7.1560e-006	2.6477e-001
La-142	1.2600e-001	4.6620e+009	5.8549e-006	2.1663e-001
Mo-99	2.3300e+000	8.6210e+010	1.0827e-004	4.0059e+000
Nb-95	1.8600e-001	6.8820e+009	8.6429e-006	3.1979e-001
Nd-147	6.7500e-002	2.4975e+009	3.1365e-006	1.1605e-001
Np-239	5.0100e+000	1.8537e+011	2.3280e-004	8.6136e+000
Pr-143	1.6700e-001	6.1790e+009	7.7600e-006	2.8712e-001
Pr-144	3.4302e-001	1.2692e+010	1.5939e-005	5.8976e-001
Pu-238	1.5400e-003	5.6980e+007	7.1560e-008	2.6477e-003
Pu-239	1.3400e-004	4.9580e+006	6.2266e-009	2.3038e-004
Pu-240	2.4900e-004	9.2130e+006	1.1570e-008	4.2810e-004
Pu-241	5.3400e-002	1.9758e+009	2.4814e-006	9.1810e-002
Rb-86	1.6700e+000	6.1790e+010	7.7600e-005	2.8712e+000
Rh-103m	2.0546e+000	7.6020e+010	9.5471e-005	3.5324e+000
Rh-105	1.4000e+000	5.1800e+010	6.5054e-005	2.4070e+000
Rh-106	9.2800e-001	3.4336e+010	4.3122e-005	1.5955e+000
Ru-103	2.0600e+000	7.6220e+010	9.5723e-005	3.5417e+000
Ru-105	1.3400e+000	4.9580e+010	6.2266e-005	2.3038e+000
Ru-106	9.2800e-001	3.4336e+010	4.3122e-005	1.5955e+000
Sb-127	2.3600e+000	8.7320e+010	1.0966e-004	4.0575e+000
Sb-129	6.5500e+000	2.4235e+011	3.0436e-004	1.1261e+001
Sr-89	1.2500e+001	4.6250e+011	5.8084e-004	2.1491e+001
Sr-90	1.6900e+000	6.2530e+010	7.8530e-005	2.9056e+000
Sr-91	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001
Sr-92	1.3500e+001	4.9950e+011	6.2731e-004	2.3210e+001
Tc-99m	2.0700e+000	7.6590e+010	9.6187e-005	3.5589e+000
Te-127	2.3400e+000	8.6580e+010	1.0873e-004	4.0231e+000
Te-127m	4.0200e-001	1.4874e+010	1.8680e-005	6.9115e-001
Te-129	6.6200e+000	2.4494e+011	3.0761e-004	1.1382e+001
Te-129m	1.3100e+000	4.8470e+010	6.0872e-005	2.2523e+000
Te-131m	4.8600e+000	1.7982e+011	2.2583e-004	8.3557e+000
Te-132	3.4900e+001	1.2913e+012	1.6217e-003	6.0003e+001
Xe-133	5.8800e+003	2.1756e+014	2.7323e-001	1.0109e+004
Xe-135	2.9400e+003	1.0878e+014	1.3661e-001	5.0547e+003
Y-90	1.9400e-002	7.1780e+008	9.0147e-007	3.3354e-002
Y-91	1.5700e-001	5.8090e+009	7.2954e-006	2.6993e-001
Y-92	4.4200e-001	1.6354e+010	2.0539e-005	7.5993e-001
Y-93	1.6700e-001	6.1790e+009	7.7600e-006	2.8712e-001
Zr-95	1.8600e-001	6.8820e+009	8.6429e-006	3.1979e-001
Zr-97	1.7400e-001	6.4380e+009	8.0853e-006	2.9916e-001

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	2.415e+13	0.000e+00	6.427e-24	0.000e+00	5.513e-25	0.000e+00	4.813e-25	0.000e+00	4.813e-27
0.02	1.531e+10	1.588e-271	6.410e-27	5.501e-273	2.220e-28	4.802e-273	1.938e-28	4.802e-275	1.938e-30
0.03	1.159e+14	1.424e-85	1.073e-22	1.411e-87	1.063e-24	1.232e-87	9.282e-25	1.232e-89	9.282e-27
0.04	1.757e+11	4.427e-44	4.314e-25	1.958e-46	1.908e-27	1.709e-46	1.666e-27	1.709e-48	1.666e-29
0.05	1.698e+11	2.731e-28	1.363e-24	7.276e-31	3.631e-27	6.352e-31	3.170e-27	6.352e-33	3.170e-29
0.06	2.639e+11	4.998e-21	1.969e-19	9.926e-24	3.910e-22	8.666e-24	3.414e-22	8.666e-26	3.414e-24
0.08	8.069e+13	1.249e-12	8.812e-11	1.976e-15	1.395e-13	1.725e-15	1.217e-13	1.725e-17	1.217e-15
0.1	3.780e+11	1.586e-12	2.233e-10	2.426e-15	3.416e-13	2.118e-15	2.982e-13	2.118e-17	2.982e-15
0.15	3.062e+13	4.897e-08	1.256e-05	8.064e-11	2.068e-08	7.040e-11	1.806e-08	7.040e-13	1.806e-10
0.2	1.243e+14	4.004e-06	1.109e-03	7.067e-09	1.957e-06	6.169e-09	1.708e-06	6.169e-11	1.708e-08
0.3	1.128e+13	1.429e-05	2.784e-03	2.711e-08	5.281e-06	2.366e-08	4.610e-06	2.366e-10	4.610e-08
0.4	5.948e+13	8.399e-04	1.064e-01	1.637e-06	2.074e-04	1.429e-06	1.811e-04	1.429e-08	1.811e-06
0.5	6.714e+13	5.658e-03	4.929e-01	1.111e-05	9.676e-04	9.695e-06	8.447e-04	9.695e-08	8.447e-06
0.6	7.865e+13	2.692e-02	1.704e+00	5.255e-05	3.326e-03	4.587e-05	2.904e-03	4.587e-07	2.904e-05
0.8	1.347e+14	3.814e-01	1.461e+01	7.255e-04	2.779e-02	6.334e-04	2.426e-02	6.334e-06	2.426e-04
1.0	5.687e+13	7.612e-01	1.999e+01	1.403e-03	3.684e-02	1.225e-03	3.216e-02	1.225e-05	3.216e-04
1.5	5.674e+13	1.019e+01	1.421e+02	1.715e-02	2.391e-01	1.497e-02	2.087e-01	1.497e-04	2.087e-03
2.0	6.378e+13	5.762e+01	5.501e+02	8.911e-02	8.507e-01	7.779e-02	7.427e-01	7.779e-04	7.427e-03
3.0	7.962e+12	5.016e+01	3.014e+02	6.805e-02	4.089e-01	5.941e-02	3.570e-01	5.941e-04	3.570e-03
4.0	1.224e+08	2.440e-03	1.107e-02	3.018e-06	1.370e-05	2.635e-06	1.196e-05	2.635e-08	1.196e-07
Total	**9.132e+14**	**1.192e+02**	**1.031e+03**	**1.765e-01**	**1.568e+00**	**1.541e-01**	**1.369e+00**	**1.541e-03**	**1.369e-02**

MicroShield 10.04

Date	By	Checked

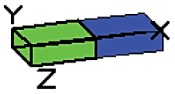
File Name	Run Date	Run Time	Duration
DRE2_GNF3.msd	August 4, 2019	9:53:46 PM	00:00:02

Project Info	
Case Title	Case 2
Description	Containment Shine CR Dose Rate @ T= 2 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	6.6300e-004	2.4531e+007	3.0808e-008	1.1399e-003
Ba-137m	5.0706e+002	1.8761e+013	2.3562e-002	8.7178e+002
Ba-139	1.1900e+002	4.4030e+012	5.5296e-003	2.0460e+002
Ba-140	3.1500e+002	1.1655e+013	1.4637e-002	5.4158e+002
Ce-141	7.4400e+000	2.7528e+011	3.4572e-004	1.2792e+001
Ce-143	6.9900e+000	2.5863e+011	3.2481e-004	1.2018e+001
Ce-144	5.9700e+000	2.2089e+011	2.7741e-004	1.0264e+001
Cm-242	1.6200e-001	5.9940e+009	7.5277e-006	2.7852e-001
Cm-244	1.1300e-002	4.1810e+008	5.2508e-007	1.9428e-002
Co-58	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Co-60	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
Cs-134	6.6600e+002	2.4642e+013	3.0947e-002	1.1450e+003
Cs-136	1.9400e+002	7.1780e+012	9.0147e-003	3.3354e+002
Cs-137	5.3600e+002	1.9832e+013	2.4906e-002	9.2154e+002
I-131	3.0900e+003	1.1433e+014	1.4358e-001	5.3126e+003
I-132	3.4400e+003	1.2728e+014	1.5985e-001	5.9144e+003
I-133	6.0500e+003	2.2385e+014	2.8113e-001	1.0402e+004
I-134	1.5300e+003	5.6610e+013	7.1095e-002	2.6305e+003
I-135	4.9500e+003	1.8315e+014	2.3001e-001	8.5105e+003
Kr-85	1.6200e+003	5.9940e+013	7.5277e-002	2.7852e+003
Kr-85m	1.9000e+004	7.0300e+014	8.8288e-001	3.2666e+004
Kr-87	1.7600e+004	6.5120e+014	8.1782e-001	3.0259e+004
Kr-88	4.3600e+004	1.6132e+015	2.0260e+000	7.4961e+004

La-140	7.5500e+000	2.7935e+011	3.5083e-004	1.2981e+001
La-141	2.0900e+000	7.7330e+010	9.7117e-005	3.5933e+000
La-142	1.1900e+000	4.4030e+010	5.5296e-005	2.0460e+000
Mo-99	3.9400e+001	1.4578e+012	1.8308e-003	6.7740e+001
Nb-95	3.1900e+000	1.1803e+011	1.4823e-004	5.4845e+000
Nd-147	1.1600e+000	4.2920e+010	5.3902e-005	1.9944e+000
Np-239	8.4700e+001	3.1339e+012	3.9358e-003	1.4562e+002
Pr-143	2.8800e+000	1.0656e+011	1.3383e-004	4.9516e+000
Pr-144	5.8846e+000	2.1773e+011	2.7344e-004	1.0117e+001
Pu-238	2.6500e-002	9.8050e+008	1.2314e-006	4.5561e-002
Pu-239	2.3100e-003	8.5470e+007	1.0734e-007	3.9716e-003
Pu-240	4.2800e-003	1.5836e+008	1.9888e-007	7.3586e-003
Pu-241	9.1700e-001	3.3929e+010	4.2610e-005	1.5766e+000
Rb-86	5.7900e+000	2.1423e+011	2.6905e-004	9.9547e+000
Rh-103m	3.5207e+001	1.3027e+012	1.6360e-003	6.0531e+001
Rh-105	2.3900e+001	8.8430e+011	1.1106e-003	4.1091e+001
Rh-106	1.5900e+001	5.8830e+011	7.3883e-004	2.7337e+001
Ru-103	3.5300e+001	1.3061e+012	1.6403e-003	6.0691e+001
Ru-105	1.8700e+001	6.9190e+011	8.6894e-004	3.2151e+001
Ru-106	1.5900e+001	5.8830e+011	7.3883e-004	2.7337e+001
Sb-127	4.0100e+001	1.4837e+012	1.8633e-003	6.8944e+001
Sb-129	9.0900e+001	3.3633e+012	4.2239e-003	1.5628e+002
Sr-89	2.1400e+002	7.9180e+012	9.9440e-003	3.6793e+002
Sr-90	2.9100e+001	1.0767e+012	1.3522e-003	5.0031e+001
Sr-91	2.2900e+002	8.4730e+012	1.0641e-002	3.9372e+002
Sr-92	1.6500e+002	6.1050e+012	7.6671e-003	2.8368e+002
Tc-99m	3.5500e+001	1.3135e+012	1.6496e-003	6.1035e+001
Te-127	4.0200e+001	1.4874e+012	1.8680e-003	6.9115e+001
Te-127m	6.9000e+000	2.5530e+011	3.2062e-004	1.1863e+001
Te-129	1.0200e+002	3.7740e+012	4.7397e-003	1.7537e+002
Te-129m	2.2600e+001	8.3620e+011	1.0502e-003	3.8856e+001
Te-131m	8.0900e+001	2.9933e+012	3.7592e-003	1.3909e+002
Te-132	5.9200e+002	2.1904e+013	2.7509e-002	1.0178e+003
Xe-133	1.5200e+005	5.6240e+015	7.0630e+000	2.6133e+005
Xe-135	7.3200e+004	2.7084e+015	3.4014e+000	1.2585e+005
Y-90	5.5400e-001	2.0498e+010	2.5743e-005	9.5249e-001
Y-91	2.7300e+000	1.0101e+011	1.2686e-004	4.6937e+000
Y-92	2.9700e+001	1.0989e+012	1.3801e-003	5.1063e+001
Y-93	2.6200e+000	9.6940e+010	1.2174e-004	4.5045e+000
Zr-95	3.2000e+000	1.1840e+011	1.4870e-004	5.5017e+000
Zr-97	2.8300e+000	1.0471e+011	1.3150e-004	4.8656e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	5.495e+14	0.000e+00	1.462e-22	0.000e+00	1.254e-23	0.000e+00	1.095e-23	0.000e+00	1.095e-25

0.02	2.608e+11	2.706e-270	1.092e-25	9.374e-272	3.784e-27	8.183e-272	3.303e-27	8.183e-274	3.303e-29
0.03	2.897e+15	3.560e-84	2.683e-21	3.528e-86	2.659e-23	3.080e-86	2.321e-23	3.080e-88	2.321e-25
0.04	8.667e+11	2.184e-43	2.128e-24	9.657e-46	9.412e-27	8.431e-46	8.217e-27	8.431e-48	8.217e-29
0.05	2.880e+12	4.633e-27	2.312e-23	1.234e-29	6.159e-26	1.077e-29	5.377e-26	1.077e-31	5.377e-28
0.06	9.821e+11	1.860e-20	7.327e-19	3.694e-23	1.455e-21	3.225e-23	1.270e-21	3.225e-25	1.270e-23
0.08	2.068e+15	3.199e-11	2.258e-09	5.063e-14	3.573e-12	4.420e-14	3.120e-12	4.420e-16	3.120e-14
0.1	6.580e+12	2.761e-11	3.887e-09	4.224e-14	5.947e-12	3.687e-14	5.192e-12	3.687e-16	5.192e-14
0.15	5.963e+14	9.537e-07	2.446e-04	1.570e-09	4.028e-07	1.371e-09	3.516e-07	1.371e-11	3.516e-09
0.2	2.890e+15	9.307e-05	2.577e-02	1.643e-07	4.549e-05	1.434e-07	3.971e-05	1.434e-09	3.971e-07
0.3	1.282e+14	1.624e-04	3.163e-02	3.080e-07	6.000e-05	2.689e-07	5.238e-05	2.689e-09	5.238e-07
0.4	5.016e+14	7.083e-03	8.977e-01	1.380e-05	1.749e-03	1.205e-05	1.527e-03	1.205e-07	1.527e-05
0.5	2.690e+14	2.267e-02	1.975e+00	4.449e-05	3.877e-03	3.884e-05	3.384e-03	3.884e-07	3.384e-05
0.6	3.445e+14	1.179e-01	7.465e+00	2.302e-04	1.457e-02	2.010e-04	1.272e-02	2.010e-06	1.272e-04
0.8	5.792e+14	1.641e+00	6.286e+01	3.121e-03	1.196e-01	2.725e-03	1.044e-01	2.725e-05	1.044e-03
1.0	2.898e+14	3.879e+00	1.018e+02	7.150e-03	1.877e-01	6.242e-03	1.639e-01	6.242e-05	1.639e-03
1.5	4.493e+14	8.068e+01	1.125e+03	1.357e-01	1.893e+00	1.185e-01	1.652e+00	1.185e-03	1.652e-02
2.0	1.031e+15	9.316e+02	8.894e+03	1.441e+00	1.375e+01	1.258e+00	1.201e+01	1.258e-02	1.201e-01
3.0	1.035e+14	6.522e+02	3.919e+03	8.849e-01	5.317e+00	7.725e-01	4.642e+00	7.725e-03	4.642e-02
4.0	1.156e+09	2.304e-02	1.046e-01	2.851e-05	1.294e-04	2.489e-05	1.129e-04	2.489e-07	1.129e-06
Total	**1.271e+16**	**1.670e+03**	**1.411e+04**	**2.472e+00**	**2.129e+01**	**2.158e+00**	**1.859e+01**	**2.158e-02**	**1.859e-01**

MicroShield 10.04

Date	By	Checked

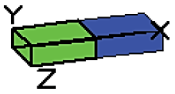
File Name	Run Date	Run Time	Duration
DRE4_GNF3.msd	August 4, 2019	9:54:53 PM	00:00:02

Project Info	
Case Title	Case 3
Description	Containment Shine CR Dose Rate @ T= 4 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	7.5100e-004	2.7787e+007	3.4897e-008	1.2912e-003
Ba-137m	5.3165e+002	1.9671e+013	2.4704e-002	9.1406e+002
Ba-139	4.9300e+001	1.8241e+012	2.2908e-003	8.4761e+001
Ba-140	3.5500e+002	1.3135e+013	1.6496e-002	6.1035e+002
Ce-141	8.4100e+000	3.1117e+011	3.9079e-004	1.4459e+001
Ce-143	7.5900e+000	2.8083e+011	3.5269e-004	1.3049e+001
Ce-144	6.7600e+000	2.5012e+011	3.1412e-004	1.1622e+001
Cm-242	1.8300e-001	6.7710e+009	8.5035e-006	3.1463e-001
Cm-244	1.2800e-002	4.7360e+008	5.9478e-007	2.2007e-002
Co-58	1.3500e-001	4.9950e+009	6.2731e-006	2.3210e-001
Co-60	1.6100e-001	5.9570e+009	7.4812e-006	2.7681e-001
Cs-134	6.9700e+002	2.5789e+013	3.2388e-002	1.1983e+003
Cs-136	2.0200e+002	7.4740e+012	9.3864e-003	3.4730e+002
Cs-137	5.6200e+002	2.0794e+013	2.6115e-002	9.6624e+002
I-131	3.8900e+003	1.4393e+014	1.8076e-001	6.6880e+003
I-132	2.7800e+003	1.0286e+014	1.2918e-001	4.7796e+003
I-133	7.1800e+003	2.6566e+014	3.3364e-001	1.2344e+004
I-134	3.9800e+002	1.4726e+013	1.8494e-002	6.8428e+002
I-135	5.0900e+003	1.8833e+014	2.3652e-001	8.7512e+003
Kr-85	5.1000e+003	1.8870e+014	2.3698e-001	8.7684e+003
Kr-85m	4.4100e+004	1.6317e+015	2.0492e+000	7.5821e+004
Kr-87	1.8700e+004	6.9190e+014	8.6894e-001	3.2151e+004
Kr-88	8.4500e+004	3.1265e+015	3.9265e+000	1.4528e+005

La-140	1.9600e+001	7.2520e+011	9.1076e-004	3.3698e+001
La-141	1.6600e+000	6.1420e+010	7.7136e-005	2.8540e+000
La-142	5.4700e-001	2.0239e+010	2.5418e-005	9.4045e-001
Mo-99	4.3700e+001	1.6169e+012	2.0306e-003	7.5133e+001
Nb-95	3.6100e+000	1.3357e+011	1.6775e-004	6.2066e+000
Nd-147	1.3000e+000	4.8100e+010	6.0407e-005	2.2351e+000
Np-239	9.3600e+001	3.4632e+012	4.3493e-003	1.6093e+002
Pr-143	3.2800e+000	1.2136e+011	1.5241e-004	5.6393e+000
Pr-144	6.6633e+000	2.4654e+011	3.0963e-004	1.1456e+001
Pu-238	3.0000e-002	1.1100e+009	1.3940e-006	5.1579e-002
Pu-239	2.6100e-003	9.6570e+007	1.2128e-007	4.4873e-003
Pu-240	4.8500e-003	1.7945e+008	2.2537e-007	8.3386e-003
Pu-241	1.0400e+000	3.8480e+010	4.8326e-005	1.7881e+000
Rb-86	6.0500e+000	2.2385e+011	2.8113e-004	1.0402e+001
Rh-103m	3.9795e+001	1.4724e+012	1.8492e-003	6.8419e+001
Rh-105	2.6700e+001	9.8790e+011	1.2407e-003	4.5905e+001
Rh-106	1.8000e+001	6.6600e+011	8.3641e-004	3.0947e+001
Ru-103	3.9900e+001	1.4763e+012	1.8540e-003	6.8600e+001
Ru-105	1.5500e+001	5.7350e+011	7.2024e-004	2.6649e+001
Ru-106	1.8000e+001	6.6600e+011	8.3641e-004	3.0947e+001
Sb-127	4.4700e+001	1.6539e+012	2.0771e-003	7.6852e+001
Sb-129	7.4700e+001	2.7639e+012	3.4711e-003	1.2843e+002
Sr-89	2.4200e+002	8.9540e+012	1.1245e-002	4.1607e+002
Sr-90	3.2900e+001	1.2173e+012	1.5288e-003	5.6565e+001
Sr-91	2.2400e+002	8.2880e+012	1.0409e-002	3.8512e+002
Sr-92	1.1200e+002	4.1440e+012	5.2043e-003	1.9256e+002
Tc-99m	4.0000e+001	1.4800e+012	1.8587e-003	6.8772e+001
Te-127	4.5400e+001	1.6798e+012	2.1096e-003	7.8056e+001
Te-127m	7.8100e+000	2.8897e+011	3.6291e-004	1.3428e+001
Te-129	9.4000e+001	3.4780e+012	4.3679e-003	1.6161e+002
Te-129m	2.5600e+001	9.4720e+011	1.1896e-003	4.4014e+001
Te-131m	8.7500e+001	3.2375e+012	4.0659e-003	1.5044e+002
Te-132	6.5900e+002	2.4383e+013	3.0622e-002	1.1330e+003
Xe-133	4.7500e+005	1.7575e+016	2.2072e+001	8.1666e+005
Xe-135	2.0300e+005	7.5110e+015	9.4329e+000	3.4902e+005
Y-90	1.2800e+000	4.7360e+010	5.9478e-005	2.2007e+000
Y-91	3.1900e+000	1.1803e+011	1.4823e-004	5.4845e+000
Y-92	6.6700e+001	2.4679e+012	3.0994e-003	1.1468e+002
Y-93	2.5900e+000	9.5830e+010	1.2035e-004	4.4530e+000
Zr-95	3.6200e+000	1.3394e+011	1.6821e-004	6.2238e+000
Zr-97	2.9500e+000	1.0915e+011	1.3708e-004	5.0719e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	1.499e+15	0.000e+00	3.990e-22	0.000e+00	3.422e-23	0.000e+00	2.988e-23	0.000e+00	2.988e-25

0.02	2.923e+11	3.032e-270	1.224e-25	1.050e-271	4.240e-27	9.169e-272	3.701e-27	9.169e-274	3.701e-29
0.03	8.908e+15	1.095e-83	8.249e-21	1.085e-85	8.175e-23	9.471e-86	7.137e-23	9.471e-88	7.137e-25
0.04	9.077e+11	2.287e-43	2.229e-24	1.011e-45	9.858e-27	8.830e-46	8.606e-27	8.830e-48	8.606e-29
0.05	3.206e+12	5.157e-27	2.574e-23	1.374e-29	6.856e-26	1.199e-29	5.985e-26	1.199e-31	5.985e-28
0.06	1.028e+12	1.947e-20	7.668e-19	3.867e-23	1.523e-21	3.375e-23	1.330e-21	3.375e-25	1.330e-23
0.08	6.454e+15	9.988e-11	7.049e-09	1.581e-13	1.116e-11	1.380e-13	9.739e-12	1.380e-15	9.739e-14
0.1	9.918e+12	4.162e-11	5.860e-09	6.367e-14	8.965e-12	5.558e-14	7.826e-12	5.558e-16	7.826e-14
0.15	1.357e+15	2.170e-06	5.566e-04	3.573e-09	9.165e-07	3.120e-09	8.001e-07	3.120e-11	8.001e-09
0.2	7.614e+15	2.452e-04	6.792e-02	4.328e-07	1.199e-04	3.779e-07	1.046e-04	3.779e-09	1.046e-06
0.3	2.639e+14	3.342e-04	6.511e-02	6.340e-07	1.235e-04	5.535e-07	1.078e-04	5.535e-09	1.078e-06
0.4	6.140e+14	8.669e-03	1.099e+00	1.689e-05	2.141e-03	1.475e-05	1.869e-03	1.475e-07	1.869e-05
0.5	3.075e+14	2.591e-02	2.257e+00	5.085e-05	4.431e-03	4.440e-05	3.868e-03	4.440e-07	3.868e-05
0.6	4.577e+14	1.567e-01	9.917e+00	3.058e-04	1.936e-02	2.670e-04	1.690e-02	2.670e-06	1.690e-04
0.8	7.104e+14	2.012e+00	7.709e+01	3.828e-03	1.466e-01	3.341e-03	1.280e-01	3.341e-05	1.280e-03
1.0	3.896e+14	5.214e+00	1.369e+02	9.612e-03	2.524e-01	8.391e-03	2.203e-01	8.391e-05	2.203e-03
1.5	7.083e+14	1.272e+02	1.774e+03	2.140e-01	2.984e+00	1.868e-01	2.605e+00	1.868e-03	2.605e-02
2.0	1.949e+15	1.761e+03	1.681e+04	2.723e+00	2.600e+01	2.377e+00	2.269e+01	2.377e-02	2.269e-01
3.0	1.209e+14	7.617e+02	4.577e+03	1.033e+00	6.209e+00	9.022e-01	5.421e+00	9.022e-03	5.421e-02
4.0	5.313e+08	1.059e-02	4.806e-02	1.310e-05	5.946e-05	1.144e-05	5.191e-05	1.144e-07	5.191e-07
Total	**3.137e+16**	**2.657e+03**	**2.339e+04**	**3.984e+00**	**3.561e+01**	**3.478e+00**	**3.109e+01**	**3.478e-02**	**3.109e-01**

MicroShield 10.04

Date	By	Checked

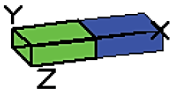
File Name	Run Date	Run Time	Duration
DRE8_GNF3.msd	August 4, 2019	9:56:08 PM	00:00:02

Project Info	
Case Title	Case 4
Description	CR Dose Rate From Containment Shine T= 8 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	6.4600e-004	2.3902e+007	3.0018e-008	1.1107e-003
Ba-137m	4.3327e+002	1.6031e+013	2.0133e-002	7.4491e+002
Ba-139	5.6700e+000	2.0979e+011	2.6347e-004	9.7484e+000
Ba-140	3.0200e+002	1.1174e+013	1.4033e-002	5.1923e+002
Ce-141	7.2000e+000	2.6640e+011	3.3456e-004	1.2379e+001
Ce-143	5.9900e+000	2.2163e+011	2.7834e-004	1.0299e+001
Ce-144	5.8100e+000	2.1497e+011	2.6997e-004	9.9891e+000
Cm-242	1.5700e-001	5.8090e+009	7.2954e-006	2.6993e-001
Cm-244	1.1000e-002	4.0700e+008	5.1114e-007	1.8912e-002
Co-58	1.1600e-001	4.2920e+009	5.3902e-006	1.9944e-001
Co-60	1.3900e-001	5.1430e+009	6.4590e-006	2.3898e-001
Cs-134	5.6900e+002	2.1053e+013	2.6440e-002	9.7828e+002
Cs-136	1.6300e+002	6.0310e+012	7.5742e-003	2.8024e+002
Cs-137	4.5800e+002	1.6946e+013	2.1282e-002	7.8743e+002
I-131	4.2700e+003	1.5799e+014	1.9842e-001	7.3414e+003
I-132	1.3100e+003	4.8470e+013	6.0872e-002	2.2523e+003
I-133	7.0000e+003	2.5900e+014	3.2527e-001	1.2035e+004
I-134	1.8800e+001	6.9560e+011	8.7358e-004	3.2323e+001
I-135	3.7300e+003	1.3801e+014	1.7332e-001	6.4129e+003
Kr-85	1.0000e+004	3.7000e+014	4.6467e-001	1.7193e+004
Kr-85m	4.6600e+004	1.7242e+015	2.1654e+000	8.0119e+004
Kr-87	4.1500e+003	1.5355e+014	1.9284e-001	7.1351e+003
Kr-88	6.2500e+004	2.3125e+015	2.9042e+000	1.0746e+005

La-140	3.5600e+001	1.3172e+012	1.6542e-003	6.1207e+001
La-141	7.0600e-001	2.6122e+010	3.2806e-005	1.2138e+000
La-142	7.7900e-002	2.8823e+009	3.6198e-006	1.3393e-001
Mo-99	3.6000e+001	1.3320e+012	1.6728e-003	6.1894e+001
Nb-95	3.1000e+000	1.1470e+011	1.4405e-004	5.3298e+000
Nd-147	1.1100e+000	4.1070e+010	5.1579e-005	1.9084e+000
Np-239	7.6600e+001	2.8342e+012	3.5594e-003	1.3170e+002
Pr-143	2.8400e+000	1.0508e+011	1.3197e-004	4.8828e+000
Pr-144	5.7269e+000	2.1190e+011	2.6611e-004	9.8462e+000
Pu-238	2.5800e-002	9.5460e+008	1.1989e-006	4.4358e-002
Pu-239	2.2400e-003	8.2880e+007	1.0409e-007	3.8512e-003
Pu-240	4.1700e-003	1.5429e+008	1.9377e-007	7.1694e-003
Pu-241	8.9200e-001	3.3004e+010	4.1449e-005	1.5336e+000
Rb-86	4.9000e+000	1.8130e+011	2.2769e-004	8.4245e+000
Rh-103m	3.4110e+001	1.2621e+012	1.5850e-003	5.8645e+001
Rh-105	2.2000e+001	8.1400e+011	1.0223e-003	3.7824e+001
Rh-106	1.5500e+001	5.7350e+011	7.2024e-004	2.6649e+001
Ru-103	3.4200e+001	1.2654e+012	1.5892e-003	5.8800e+001
Ru-105	7.1300e+000	2.6381e+011	3.3131e-004	1.2259e+001
Ru-106	1.5500e+001	5.7350e+011	7.2024e-004	2.6649e+001
Sb-127	3.7300e+001	1.3801e+012	1.7332e-003	6.4129e+001
Sb-129	3.3800e+001	1.2506e+012	1.5706e-003	5.8112e+001
Sr-89	2.0700e+002	7.6590e+012	9.6187e-003	3.5589e+002
Sr-90	2.8300e+001	1.0471e+012	1.3150e-003	4.8656e+001
Sr-91	1.4400e+002	5.3280e+012	6.6913e-003	2.4758e+002
Sr-92	3.4600e+001	1.2802e+012	1.6078e-003	5.9487e+001
Tc-99m	3.3600e+001	1.2432e+012	1.5613e-003	5.7768e+001
Te-127	3.8700e+001	1.4319e+012	1.7983e-003	6.6536e+001
Te-127m	6.7100e+000	2.4827e+011	3.1180e-004	1.1536e+001
Te-129	5.1000e+001	1.8870e+012	2.3698e-003	8.7684e+001
Te-129m	2.1900e+001	8.1030e+011	1.0176e-003	3.7652e+001
Te-131m	6.8500e+001	2.5345e+012	3.1830e-003	1.1777e+002
Te-132	5.4600e+002	2.0202e+013	2.5371e-002	9.3873e+002
Xe-133	9.1200e+005	3.3744e+016	4.2378e+001	1.5680e+006
Xe-135	2.9600e+005	1.0952e+016	1.3754e+001	5.0891e+005
Y-90	2.2300e+000	8.2510e+010	1.0362e-004	3.8340e+000
Y-91	2.8700e+000	1.0619e+011	1.3336e-004	4.9344e+000
Y-92	5.6400e+001	2.0868e+012	2.6208e-003	9.6968e+001
Y-93	1.6900e+000	6.2530e+010	7.8530e-005	2.9056e+000
Zr-95	3.1000e+000	1.1470e+011	1.4405e-004	5.3298e+000
Zr-97	2.1500e+000	7.9550e+010	9.9905e-005	3.6965e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.451e+15	0.000e+00	6.521e-22	0.000e+00	5.594e-23	0.000e+00	4.883e-23	0.000e+00	4.883e-25

0.02	2.455e+11	2.547e-270	1.028e-25	8.823e-272	3.561e-27	7.703e-272	3.109e-27	7.703e-274	3.109e-29
0.03	1.682e+16	2.067e-83	1.557e-20	2.048e-85	1.543e-22	1.788e-85	1.347e-22	1.788e-87	1.347e-24
0.04	7.335e+11	1.848e-43	1.801e-24	8.173e-46	7.966e-27	7.135e-46	6.954e-27	7.135e-48	6.954e-29
0.05	2.656e+12	4.273e-27	2.132e-23	1.138e-29	5.681e-26	9.938e-30	4.959e-26	9.938e-32	4.959e-28
0.06	8.300e+11	1.572e-20	6.192e-19	3.122e-23	1.230e-21	2.726e-23	1.074e-21	2.726e-25	1.074e-23
0.08	1.239e+16	1.917e-10	1.353e-08	3.034e-13	2.141e-11	2.648e-13	1.869e-11	2.648e-15	1.869e-13
0.1	7.630e+12	3.201e-11	4.508e-09	4.898e-14	6.896e-12	4.276e-14	6.020e-12	4.276e-16	6.020e-14
0.15	1.410e+15	2.255e-06	5.783e-04	3.713e-09	9.522e-07	3.241e-09	8.313e-07	3.241e-11	8.313e-09
0.2	1.050e+16	3.382e-04	9.366e-02	5.969e-07	1.653e-04	5.211e-07	1.443e-04	5.211e-09	1.443e-06
0.3	2.710e+14	3.433e-04	6.688e-02	6.512e-07	1.269e-04	5.685e-07	1.108e-04	5.685e-09	1.108e-06
0.4	3.482e+14	4.917e-03	6.231e-01	9.580e-06	1.214e-03	8.363e-06	1.060e-03	8.363e-08	1.060e-05
0.5	2.768e+14	2.332e-02	2.032e+00	4.578e-05	3.989e-03	3.997e-05	3.482e-03	3.997e-07	3.482e-05
0.6	4.688e+14	1.605e-01	1.016e+01	3.132e-04	1.983e-02	2.734e-04	1.731e-02	2.734e-06	1.731e-04
0.8	4.598e+14	1.302e+00	4.989e+01	2.477e-03	9.490e-02	2.163e-03	8.285e-02	2.163e-05	8.285e-04
1.0	2.725e+14	3.647e+00	9.576e+01	6.723e-03	1.765e-01	5.869e-03	1.541e-01	5.869e-05	1.541e-03
1.5	5.026e+14	9.026e+01	1.259e+03	1.519e-01	2.118e+00	1.326e-01	1.849e+00	1.326e-03	1.849e-02
2.0	1.428e+15	1.290e+03	1.232e+04	1.995e+00	1.905e+01	1.742e+00	1.663e+01	1.742e-02	1.663e-01
3.0	3.936e+13	2.480e+02	1.490e+03	3.364e-01	2.022e+00	2.937e-01	1.765e+00	2.937e-03	1.765e-02
4.0	7.566e+07	1.508e-03	6.845e-03	1.866e-06	8.468e-06	1.629e-06	7.392e-06	1.629e-08	7.392e-08
Total	**4.765e+16**	**1.634e+03**	**1.522e+04**	**2.493e+00**	**2.348e+01**	**2.176e+00**	**2.050e+01**	**2.176e-02**	**2.050e-01**

MicroShield 10.04

Date	By	Checked

File Name	Run Date	Run Time	Duration
DRE16_GNF3.msd	August 4, 2019	9:57:24 PM	00:00:02

Project Info

Case Title	Case 5
Description	CR Dose Rate From Containment Shine T= 16 hrs
Geometry	13 - Rectangular Volume

Source Dimensions

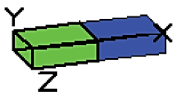
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points

A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield

Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	5.3700e-004	1.9869e+007	2.4953e-008	9.2326e-004
Ba-137m	3.3299e+002	1.2321e+013	1.5473e-002	5.7251e+002
Ba-139	8.4200e-002	3.1154e+009	3.9125e-006	1.4476e-001
Ba-140	2.4600e+002	9.1020e+012	1.1431e-002	4.2295e+002
Ce-141	5.9400e+000	2.1978e+011	2.7602e-004	1.0213e+001
Ce-143	4.2000e+000	1.5540e+011	1.9516e-004	7.2210e+000
Ce-144	4.8100e+000	1.7797e+011	2.2351e-004	8.2698e+000
Cm-242	1.3000e-001	4.8100e+009	6.0407e-006	2.2351e-001
Cm-244	9.1400e-003	3.3818e+008	4.2471e-007	1.5714e-002
Co-58	9.5500e-002	3.5335e+009	4.4376e-006	1.6419e-001
Co-60	1.1500e-001	4.2550e+009	5.3437e-006	1.9772e-001
Cs-134	4.3600e+002	1.6132e+013	2.0260e-002	7.4961e+002
Cs-136	1.2300e+002	4.5510e+012	5.7155e-003	2.1147e+002
Cs-137	3.5200e+002	1.3024e+013	1.6356e-002	6.0519e+002
I-131	4.5800e+003	1.6946e+014	2.1282e-001	7.8743e+003
I-132	5.5600e+002	2.0572e+013	2.5836e-002	9.5592e+002
I-133	5.9100e+003	2.1867e+014	2.7462e-001	1.0161e+004
I-134	3.7000e-002	1.3690e+009	1.7193e-006	6.3614e-002
I-135	1.7800e+003	6.5860e+013	8.2712e-002	3.0603e+003
Kr-85	1.4900e+004	5.5130e+014	6.9236e-001	2.5617e+004
Kr-85m	2.0100e+004	7.4370e+014	9.3399e-001	3.4558e+004
Kr-87	7.9000e+001	2.9230e+012	3.6709e-003	1.3582e+002
Kr-88	1.3200e+004	4.8840e+014	6.1337e-001	2.2695e+004

La-140	5.7500e+001	2.1275e+012	2.6719e-003	9.8859e+001
La-141	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
La-142	1.7700e-003	6.5490e+007	8.2247e-008	3.0431e-003
Mo-99	2.7400e+001	1.0138e+012	1.2732e-003	4.7109e+001
Nb-95	2.5700e+000	9.5090e+010	1.1942e-004	4.4186e+000
Nd-147	8.9900e-001	3.3263e+010	4.1774e-005	1.5456e+000
Np-239	5.7600e+001	2.1312e+012	2.6765e-003	9.9031e+001
Pr-143	2.4000e+000	8.8800e+010	1.1152e-004	4.1263e+000
Pr-144	4.7412e+000	1.7543e+011	2.2031e-004	8.1515e+000
Pu-238	2.1400e-002	7.9180e+008	9.9440e-007	3.6793e-002
Pu-239	1.8600e-003	6.8820e+007	8.6429e-008	3.1979e-003
Pu-240	3.4600e-003	1.2802e+008	1.6078e-007	5.9487e-003
Pu-241	7.4000e-001	2.7380e+010	3.4386e-005	1.2723e+000
Rb-86	3.7200e+000	1.3764e+011	1.7286e-004	6.3958e+000
Rh-103m	2.8126e+001	1.0407e+012	1.3069e-003	4.8356e+001
Rh-105	1.6100e+001	5.9570e+011	7.4812e-004	2.7681e+001
Rh-106	1.2800e+001	4.7360e+011	5.9478e-004	2.2007e+001
Ru-103	2.8200e+001	1.0434e+012	1.3104e-003	4.8484e+001
Ru-105	1.7000e+000	6.2900e+010	7.8994e-005	2.9228e+000
Ru-106	1.2800e+001	4.7360e+011	5.9478e-004	2.2007e+001
Sb-127	2.9100e+001	1.0767e+012	1.3522e-003	5.0031e+001
Sb-129	7.7600e+000	2.8712e+011	3.6059e-004	1.3342e+001
Sr-89	1.7100e+002	6.3270e+012	7.9459e-003	2.9400e+002
Sr-90	2.3500e+001	8.6950e+011	1.0920e-003	4.0403e+001
Sr-91	6.6600e+001	2.4642e+012	3.0947e-003	1.1450e+002
Sr-92	3.7000e+000	1.3690e+011	1.7193e-004	6.3614e+000
Tc-99m	2.6700e+001	9.8790e+011	1.2407e-003	4.5905e+001
Te-127	3.1400e+001	1.1618e+012	1.4591e-003	5.3986e+001
Te-127m	5.5700e+000	2.0609e+011	2.5882e-004	9.5764e+000
Te-129	2.5400e+001	9.3980e+011	1.1803e-003	4.3670e+001
Te-129m	1.8100e+001	6.6970e+011	8.4106e-004	3.1119e+001
Te-131m	4.7200e+001	1.7464e+012	2.1933e-003	8.1150e+001
Te-132	4.2200e+002	1.5614e+013	1.9609e-002	7.2554e+002
Xe-133	1.3000e+006	4.8100e+016	6.0407e+001	2.2351e+006
Xe-135	2.4100e+005	8.9170e+015	1.1199e+001	4.1435e+005
Y-90	3.6300e+000	1.3431e+011	1.6868e-004	6.2410e+000
Y-91	2.5100e+000	9.2870e+010	1.1663e-004	4.3154e+000
Y-92	1.7400e+001	6.4380e+011	8.0853e-004	2.9916e+001
Y-93	8.1000e-001	2.9970e+010	3.7638e-005	1.3926e+000
Zr-95	2.5600e+000	9.4720e+010	1.1896e-004	4.4014e+000
Zr-97	1.2900e+000	4.7730e+010	5.9943e-005	2.2179e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	3.105e+15	0.000e+00	8.262e-22	0.000e+00	7.087e-23	0.000e+00	6.187e-23	0.000e+00	6.187e-25
0.02	1.959e+11	2.032e-270	8.204e-26	7.040e-272	2.842e-27	6.146e-272	2.481e-27	6.146e-274	2.481e-29
0.03	2.356e+16	2.895e-83	2.182e-20	2.869e-85	2.162e-22	2.505e-85	1.887e-22	2.505e-87	1.887e-24
0.04	5.605e+11	1.412e-43	1.376e-24	6.245e-46	6.087e-27	5.452e-46	5.314e-27	5.452e-48	5.314e-29
0.05	2.053e+12	3.303e-27	1.648e-23	8.799e-30	4.391e-26	7.682e-30	3.833e-26	7.682e-32	3.833e-28
0.06	6.254e+11	1.184e-20	4.666e-19	2.353e-23	9.268e-22	2.054e-23	8.091e-22	2.054e-25	8.091e-24
0.08	1.766e+16	2.732e-10	1.928e-08	4.324e-13	3.052e-11	3.775e-13	2.664e-11	3.775e-15	2.664e-13
0.1	3.275e+12	1.374e-11	1.935e-09	2.102e-14	2.960e-12	1.835e-14	2.584e-12	1.835e-16	2.584e-14
0.15	6.054e+14	9.682e-07	2.483e-04	1.594e-09	4.089e-07	1.392e-09	3.570e-07	1.392e-11	3.570e-09
0.2	8.196e+15	2.640e-04	7.311e-02	4.659e-07	1.290e-04	4.067e-07	1.126e-04	4.067e-09	1.126e-06
0.3	1.252e+14	1.586e-04	3.089e-02	3.008e-07	5.860e-05	2.626e-07	5.115e-05	2.626e-09	5.115e-07
0.4	2.111e+14	2.981e-03	3.778e-01	5.809e-06	7.362e-04	5.071e-06	6.427e-04	5.071e-08	6.427e-06
0.5	2.155e+14	1.816e-02	1.582e+00	3.565e-05	3.106e-03	3.112e-05	2.712e-03	3.112e-07	2.712e-05
0.6	3.521e+14	1.205e-01	7.628e+00	2.352e-04	1.489e-02	2.053e-04	1.300e-02	2.053e-06	1.300e-04
0.8	1.391e+14	3.940e-01	1.509e+01	7.494e-04	2.871e-02	6.542e-04	2.506e-02	6.542e-06	2.506e-04
1.0	8.402e+13	1.125e+00	2.953e+01	2.073e-03	5.442e-02	1.810e-03	4.751e-02	1.810e-05	4.751e-04
1.5	1.325e+14	2.379e+01	3.317e+02	4.003e-02	5.581e-01	3.494e-02	4.872e-01	3.494e-04	4.872e-03
2.0	3.051e+14	2.756e+02	2.631e+03	4.262e-01	4.069e+00	3.721e-01	3.552e+00	3.721e-03	3.552e-02
3.0	4.253e+12	2.679e+01	1.610e+02	3.635e-02	2.184e-01	3.173e-02	1.907e-01	3.173e-04	1.907e-03
4.0	1.719e+06	3.427e-05	1.555e-04	4.240e-08	1.924e-07	3.702e-08	1.680e-07	3.702e-10	1.680e-09
Total	**5.470e+16**	**3.279e+02**	**3.178e+03**	**5.057e-01**	**4.948e+00**	**4.415e-01**	**4.319e+00**	**4.415e-03**	**4.319e-02**

MicroShield 10.04

Date	By	Checked

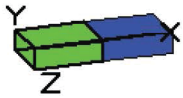
File Name	Run Date	Run Time	Duration
DRE24_GNF3.msd	August 4, 2019	9:58:46 PM	00:00:02

Project Info	
Case Title	Case 6
Description	CR Dose Rate From Containment Shine T= 24 hrs
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	4.5e+3 cm (147 ft .0 in)
Width	3.6e+3 cm (117 ft 6.0 in)
Height	1.3e+3 cm (44 ft)

Dose Points			
A	X	Y	Z
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)

Shield			
Shield N	Dimension	Material	Density (g/cm^3)
Source	2.15e+10 cm³	Air	0.00122
Shield 1	4526.28 cm	Air	0.00122
Shield 2	76.2 cm	Concrete	2.3
Air Gap		Air	0.00122



Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons< 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Am-241	4.9200e-004	1.8204e+007	2.2862e-008	8.4589e-004
Ba-139	1.3800e-003	5.1060e+007	6.4125e-008	2.3726e-003
Ba-140	2.2100e+002	8.1770e+012	1.0269e-002	3.7996e+002
Ce-141	5.3900e+000	1.9943e+011	2.5046e-004	9.2670e+000
Ce-143	3.2500e+000	1.2025e+011	1.5102e-004	5.5877e+000
Ce-144	4.4000e+000	1.6280e+011	2.0446e-004	7.5649e+000
Cm-242	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Cm-244	8.3500e-003	3.0895e+008	3.8800e-007	1.4356e-002
Co-58	8.7000e-002	3.2190e+009	4.0427e-006	1.4958e-001
Co-60	1.0500e-001	3.8850e+009	4.8791e-006	1.8053e-001
Cs-134	3.8200e+002	1.4134e+013	1.7751e-002	6.5677e+002
Cs-136	1.0600e+002	3.9220e+012	4.9255e-003	1.8224e+002
Cs-137	3.0800e+002	1.1396e+013	1.4312e-002	5.2954e+002
I-131	4.6000e+003	1.7020e+014	2.1375e-001	7.9087e+003
I-132	4.3400e+002	1.6058e+013	2.0167e-002	7.4617e+002
I-133	4.6800e+003	1.7316e+014	2.1747e-001	8.0463e+003
I-134	6.8500e-005	2.5345e+006	3.1830e-009	1.1777e-004
I-135	7.9400e+002	2.9378e+013	3.6895e-002	1.3651e+003
Kr-85	1.6700e+004	6.1790e+014	7.7600e-001	2.8712e+004
Kr-85m	6.5500e+003	2.4235e+014	3.0436e-001	1.1261e+004
Kr-87	1.1300e+000	4.1810e+010	5.2508e-005	1.9428e+000

Kr-88	2.1000e+003	7.7700e+013	9.7581e-002	3.6105e+003
La-140	7.4600e+001	2.7602e+012	3.4665e-003	1.2826e+002
La-141	3.1800e-002	1.1766e+009	1.4777e-006	5.4673e-002
La-142	4.4400e-005	1.6428e+006	2.0631e-009	7.6336e-005
Mo-99	2.3100e+001	8.5470e+011	1.0734e-003	3.9716e+001
Nb-95	2.3500e+000	8.6950e+010	1.0920e-004	4.0403e+000
Nd-147	8.0500e-001	2.9785e+010	3.7406e-005	1.3840e+000
Np-239	4.7700e+001	1.7649e+012	2.2165e-003	8.2010e+001
Pr-143	2.2100e+000	8.1770e+010	1.0269e-004	3.7996e+000
Pu-238	1.9500e-002	7.2150e+008	9.0611e-007	3.3526e-002
Pu-239	1.7000e-003	6.2900e+007	7.8994e-008	2.9228e-003
Pu-240	3.1600e-003	1.1692e+008	1.4684e-007	5.4330e-003
Pu-241	6.7600e-001	2.5012e+010	3.1412e-005	1.1622e+000
Rb-86	3.2200e+000	1.1914e+011	1.4962e-004	5.5361e+000
Rh-105	1.2700e+001	4.6990e+011	5.9013e-004	2.1835e+001
Ru-103	2.5600e+001	9.4720e+011	1.1896e-003	4.4014e+001
Ru-105	4.4500e-001	1.6465e+010	2.0678e-005	7.6508e-001
Ru-106	1.1700e+001	4.3290e+011	5.4367e-004	2.0116e+001
Sb-127	2.5100e+001	9.2870e+011	1.1663e-003	4.3154e+001
Sb-129	1.9700e+000	7.2890e+010	9.1541e-005	3.3870e+000
Sr-89	1.5600e+002	5.7720e+012	7.2489e-003	2.6821e+002
Sr-90	2.1500e+001	7.9550e+011	9.9905e-004	3.6965e+001
Sr-91	3.4000e+001	1.2580e+012	1.5799e-003	5.8456e+001
Sr-92	4.3800e-001	1.6206e+010	2.0353e-005	7.5305e-001
Tc-99m	2.3100e+001	8.5470e+011	1.0734e-003	3.9716e+001
Te-127	2.8000e+001	1.0360e+012	1.3011e-003	4.8140e+001
Te-127m	5.0900e+000	1.8833e+011	2.3652e-004	8.7512e+000
Te-129	1.7000e+001	6.2900e+011	7.8994e-004	2.9228e+001
Te-129m	1.6400e+001	6.0680e+011	7.6206e-004	2.8196e+001
Te-131m	3.5900e+001	1.3283e+012	1.6682e-003	6.1722e+001
Te-132	3.6000e+002	1.3320e+013	1.6728e-002	6.1894e+002
Xe-133	1.4000e+006	5.1800e+016	6.5054e+001	2.4070e+006
Xe-135	1.4700e+005	5.4390e+015	6.8307e+000	2.5274e+005
Y-90	4.8200e+000	1.7834e+011	2.2397e-004	8.2870e+000
Y-91	2.3600e+000	8.7320e+010	1.0966e-004	4.0575e+000
Y-92	4.2700e+000	1.5799e+011	1.9842e-004	7.3414e+000
Y-93	4.2800e-001	1.5836e+010	1.9888e-005	7.3586e-001
Zr-95	2.3300e+000	8.6210e+010	1.0827e-004	4.0059e+000
Zr-97	8.4700e-001	3.1339e+010	3.9358e-005	1.4562e+000

Buildup: The material reference is Shield 2.
Integration Parameters

X Direction	20
Y Direction	20
Z Direction	20

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm^2/sec No Buildup	Fluence Rate MeV/cm^2/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

0.015	3.243e+15	0.000e+00	8.631e-22	0.000e+00	7.403e-23	0.000e+00	6.463e-23	0.000e+00	6.463e-25
0.02	9.963e+10	1.034e-270	4.172e-26	3.580e-272	1.445e-27	3.125e-272	1.262e-27	3.125e-274	1.262e-29
0.03	2.515e+16	3.090e-83	2.328e-20	3.062e-85	2.308e-22	2.673e-85	2.015e-22	2.673e-87	2.015e-24
0.04	3.337e+11	8.407e-44	8.194e-25	3.718e-46	3.624e-27	3.246e-46	3.164e-27	3.246e-48	3.164e-29
0.05	1.752e+12	2.818e-27	1.406e-23	7.507e-30	3.746e-26	6.554e-30	3.270e-26	6.554e-32	3.270e-28
0.06	5.367e+11	1.016e-20	4.004e-19	2.019e-23	7.952e-22	1.762e-23	6.942e-22	1.762e-25	6.942e-24
0.08	1.902e+16	2.943e-10	2.077e-08	4.656e-13	3.286e-11	4.065e-13	2.869e-11	4.065e-15	2.869e-13
0.1	2.076e+12	8.711e-12	1.226e-09	1.333e-14	1.876e-12	1.163e-14	1.638e-12	1.163e-16	1.638e-14
0.15	2.034e+14	3.253e-07	8.343e-05	5.357e-10	1.374e-07	4.676e-10	1.199e-07	4.676e-12	1.199e-09
0.2	4.961e+15	1.598e-04	4.425e-02	2.820e-07	7.810e-05	2.462e-07	6.818e-05	2.462e-09	6.818e-07
0.3	5.186e+13	6.569e-05	1.280e-02	1.246e-07	2.427e-05	1.088e-07	2.119e-05	1.088e-09	2.119e-07
0.4	1.755e+14	2.478e-03	3.140e-01	4.828e-06	6.119e-04	4.215e-06	5.342e-04	4.215e-08	5.342e-06
0.5	1.684e+14	1.419e-02	1.236e+00	2.785e-05	2.426e-03	2.431e-05	2.118e-03	2.431e-07	2.118e-05
0.6	2.226e+14	7.618e-02	4.822e+00	1.487e-04	9.413e-03	1.298e-04	8.217e-03	1.298e-06	8.217e-05
0.8	6.556e+13	1.857e-01	7.115e+00	3.532e-04	1.353e-02	3.084e-04	1.181e-02	3.084e-06	1.181e-04
1.0	3.272e+13	4.379e-01	1.150e+01	8.072e-04	2.119e-02	7.047e-04	1.850e-02	7.047e-06	1.850e-04
1.5	3.941e+13	7.077e+00	9.869e+01	1.191e-02	1.660e-01	1.040e-02	1.450e-01	1.040e-04	1.450e-03
2.0	5.108e+13	4.615e+01	4.406e+02	7.137e-02	6.814e-01	6.231e-02	5.949e-01	6.231e-04	5.949e-03
3.0	7.036e+11	4.433e+00	2.664e+01	6.014e-03	3.614e-02	5.250e-03	3.155e-02	5.250e-05	3.155e-04
4.0	4.312e+04	8.598e-07	3.901e-06	1.064e-09	4.826e-09	9.286e-10	4.213e-09	9.286e-12	4.213e-11
Total	**5.338e+16**	**5.838e+01**	**5.910e+02**	**9.064e-02**	**9.309e-01**	**7.913e-02**	**8.126e-01**	**7.913e-04**	**8.126e-03**

Appendix A – Evaluation of 350 scfh MSIV leakage for Unit 3

A1.0 PURPOSE

The purpose of this appendix is to evaluate increased MSIV leakage for Unit 3 by utilizing the lower atmospheric dispersion factors from the Unit 3 ground level release from the MSIVs to the control room. The methodology, inputs, and assumptions used to calculate the doses in this appendix are equivalent to the main body of this calculation with the exception of increasing the MSIV leakage from 250 sch (100, 100, 50, and 0 in each steam line) to 350 scfh (125, 125, 100, and 0 in each steam line) and decreasing the control room χ/Qs. The Westinghouse SVEA-96 Optima2 fuel, Framatome ATRIUM 10XM fuel, and GNF3 fuel are evaluated.

A2.0 CALCULATIONS

The revised χ/Qs for the Unit 3 MSIVs are provided in Table A2-1. The revised MSIV pathway flow rates calculated using the same process as Section 7.2 of the main body of this calculation are provided in Table A2-2. The revised aerosol removal efficiencies calculated using the same process as Section 7.4 of the main body of this calculation are provided in Table A2-3.

Table A2-1
CR χ /Qs For MSIV Leakage Release Via Unit 3 MSIV

Time	X/Q (sec/m^3)	REFERENCE
0 - 2 hr	4.48E-04	9.11, Table 4-1
2 - 8 hr	3.74E-04	
8 - 24 hr	1.57E-04	
24 - 96 hr	1.04E-04	
96 - 720 hr	8.42E-05	

Table A2-2
MSIV Leak Rate In Different Control Volumes (350 scfh)

Post-LOCA Time Interval (hr)	MSIV Leak Rate From Drywell To Main Steam Various Control Volumes (cfh)/(cfm)							
	Drywell To MSIV Failed Volume V_1	Volume V_1 To Atmosphere	Drywell To Intact Line 1 Volume V_2	Intact Line 1 Volume V_2 To Volume V_3	Volume V_3 To Atmosphere	Drywell To Intact Line 2 Volume V_4	Intact Line 2 Volume V_4 To Volume V_5	Volume V_5 To Atmosphere
0-2	44.6 0.743	125 2.083	44.6 0.743	125 2.083	125 2.083	35.68 0.595	100 1.667	100 1.667
2-24	26.20 0.437	73..42 1.224	26.20 0.437	73.42 1.224	73.42 1.224	20.96 0.349	58.74 0.979	58.74 0.979
24-720	13.1 0.218	36.71 0.612	13.1 0.218	36.71 0.612	36.71 0.612	10.48 0.175	29.37 0.489	29.37 0.489

Table A2-3
Aerosol Removal Efficiency Due To Gravitational Deposition On Horizontal Pipe Surface

Post-LOCA Time Interval (hr)	Volume V_1 = 200.24 ft^3			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V4 = 163.75 ft^3			Aerosol Removal Efficiency (%)
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)			Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)	
0-720	8.259	87.28	125	85.22	0-720	8.261	49.01	100	80.19
Post-LOCA Time Interval (hr)	Volume V2 = 152.93 ft^3			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V5 = 49.11 ft^3			Aerosol Removal Efficiency (%)
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)			Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)	
0-720	8.260	39.97	125	72.54	0-720	8.260	49.11	100	80.22
Post-LOCA Time Interval (hr)	Volume V3 = 49.11 ft^3			Aerosol Removal Efficiency (%)					
	Settling Rate Constant λ_s (hr^{-1})	Horizontal Pipe Volume (ft^3)	Volumetric Flow Rate (ft^3/hr)						
0-720	8.260	49.11	125	76.44					

A3.0 RESULTS SUMMARY & CONCLUSIONS

A3.1 Results Summary

The results of Unit 3 LOCA analysis with total MSIV leakage increased to 350 scfh are summarized in Table A3-1 for the Framatome ATRIUM 10XM fuel, Table A3-2 for the Westinghouse SVEA-96 Optima2 fuel, and Table A3-3 for the GNF3 fuel:

Table A3-1 LOCA doses using Framatome ATRIUM 10XM fuel and 350 scfh leakage for Unit 3

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	1.93E-01	7.01E-02	2.64E-01
ESF Leakage	8.74E-03	5.68E-03	4.06E-02
MSIV Leakage	2.02E+00	2.86E+00	7.24E-01
Reactor Building Shine	1.38E-01	0.00E+00	0.00E+00
External Cloud Shine	2.42E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**2.60E+00**	**2.94E+00**	**1.03E+00**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_Fram		
ESF Leakage	DRE3ES395_Fram		
MSIV Leakage	DRE3MS395_Fram_350 and DRE3MS11_Fram_350		

Table A3-2 LOCA doses using Westinghouse SVEA-96 Optima2 fuel and 350 scfh leakage for Unit 3

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	2.00E-01	7.29E-02	2.83E-01
ESF Leakage	8.84E-03	5.75E-03	4.11E-02
MSIV Leakage	2.12E+00	3.06E+00	7.72E-01
Reactor Building Shine	1.46E-01	0.00E+00	0.00E+00
External Cloud Shine	2.61E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**2.73E+00**	**3.14E+00**	**1.10E+00**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_West		
ESF Leakage	DRE3ES395_West		
MSIV Leakage	DRE3MS395_West_350 and DRE3MS11_West_350		

Table A3-3 LOCA doses using GNF3 fuel and 350 scfh leakage for Unit 3

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	**EAB**	**LPZ**
Containment Leakage	2.06E-01	8.26E-02	3.23E-01
ESF Leakage	8.94E-03	5.81E-03	4.15E-02
MSIV Leakage	2.26E+00	3.57E+00	8.79E-01
Reactor Building Shine	1.77E-01	0.00E+00	0.00E+00
External Cloud Shine	3.09E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
Total	**2.96E+00**	**3.66E+00**	**1.24E+00**
Allowable TEDE Limit	**5.00E+00**	**2.50E+01**	**2.50E+01**
	RADTRAD Computer Run No.		
Containment Leakage	DRE3CL395_GNF3		
ESF Leakage	DRE3ES395_GNF3		
MSIV Leakage	DRE3MS395_GNF3_350 and DRE3MS11_GNF3_350		

A3.2 Conclusions

The Section A3.1 results of this analysis, using a value of 350 scfh for MSIV leakage, indicate that the total post-LOCA EAB, LPZ, and CR doses are within their allowable TEDE limits for all fuel types. The conclusions of this appendix are valid for Unit 3 only.