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October 26, 2000

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: GGNS Pilot Full-Scope Application of NUREG-1465 Alternative Source  
Term Insights, Response to RAI, Proposed Amendment to the Operating  
License, LDC 2000-070  
Docket No. 50-416  
License No. NPF-29

Reference: 1) GNRO-99/00077, GGNS Letter to NRC, Pilot Limited-Scope Application of  
NUREG-1465 Alternative Source Term Insights, dated November 3, 1998

GNRO-2000/00080

Gentlemen:

Grand Gulf Nuclear Station (GGNS) is a pilot plant in the collaborative efforts of the Nuclear Regulatory Commission (NRC), Nuclear Energy Institute (NEI), and the Electric Power Research Institute (EPRI) for the implementation of the NRC research efforts documented in NUREG-1465. On January 21, 2000, GGNS submitted a request to revise its licensing basis to implement the alternative source term. The NRC provided two requests for additional information dated May 9, 2000 and August 9, 2000. GGNS provided partial responses on June 29, 2000 and September 1, 2000. This letter provides the response to the balance of the NRC questions in Attachment 3.

Based on concerns with the meteorological data used in the supporting analyses, as well as on future GGNS plans to request a power uprate, the original technical specification change request is also being revised. The original request had proposed to remove the control room fresh air fans and filters from the technical specifications and to revise the allowable in-leakage rate to 1200 cfm. That request is herein modified to retain the fans and the high efficiency particulate air (HEPA) filters; only the charcoal adsorbers are to be removed. In addition, GGNS proposes to increase the allowable in-leakage rate to 2000 cfm. The supporting dose analyses have been revised based on these changes and are provided in Attachments 4 through 6. Details of the revised request, including the dose result changes due to revised calculations, are presented in Attachment 1, which is intended to replace the Attachment 1 of the original submittal in its entirety. Change bars have been utilized in the attachment to denote areas where the original submittal was affected by the above changes.

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Because the change was associated with the alternative source term, it was deemed to involve an unreviewed safety question. The original statement of No Significant Hazards Considerations associated with the amendment request has been reviewed and found to be unaffected by the revisions proposed in this letter. The original NSHC has been revised to reflect the current status of rulemaking and is provided in Attachment 1. Marked up copies of the affected Technical Specification and Bases pages that have changes from the original submittal are provided for your review in Attachment 2.

We look forward to continued cooperation on this project as the NRC Rulemaking Plan is implemented. We support the revised source term initiative and believe it is an important step toward risk-informed regulatory policy. If you have any questions regarding this submittal, please contact Jerry Burford at 601-368-5755.

Pursuant to 28 USCA Section 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on October 26, 2000.

Yours truly,



/FGB

Attachment 1:	Discussion of Proposed Changes
Attachment 2:	Markups of Affected Technical Specification / Bases Pages
Attachment 3:	Responses to Balance of Requests for Additional Information
Attachment 4:	CRDA Analysis
Attachment 5:	LOCA Dose Analysis
Attachment 6:	Design Basis FHA Radiological Analysis

cc: (see next page)

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**Attachment 1**

**Discussion of Proposed Changes**

## PURPOSE

Grand Gulf Nuclear Station requests the NRC review and approval of this proposed request to revise our licensing basis to utilize the alternative accident source term described in NUREG-1465 (Reference 4). The current basis utilizes a source term determined in accordance with TID-14844 (Reference 5). This request has been developed considering the recently approved rulemaking and regulatory guidance (Regulatory Guide 1.183) developed by the NRC (References 7 and 33). As the implementation of the alternative source term involves an unreviewed safety question, GGNS requests a license amendment in accordance with 10CFR50.90 approving the use of the new source term.

This request also proposes revisions to several Technical Specifications that include special applicability wording to invoke safety controls during shutdown operations. Similar changes to several specifications were recently proposed (see Reference 16) based on the results of a revised Fuel Handling Accident analysis performed using the original source term. That submittal introduced the term "recently irradiated fuel assemblies" into the specifications and initially established its definition as fuel that had been used in the reactor and was within an eight-day period following shutdown. Those changes were approved in amendment 139 to the GGNS Operating License. The FHA analyses have been revised again in preparation for this submittal, this time utilizing the alternative source term. This submittal proposes to expand the use of the term to several more specifications and also to redefine the term to involve only a 24-hour decay period after shutdown. The changes proposed herein update the earlier request to incorporate alternative source term concepts and are consistent with the changes proposed in Reference 16 and with the industry proposed changes of TSTF-51.

The original full-scope alternative source term request was submitted January 21, 2000. The NRC provided two requests for additional information dated May 9, 2000 and August 9, 2000. GGNS provided partial responses on June 29, 2000 and September 1, 2000. This letter provides the response to the balance of the NRC questions in Attachment 3. In addressing the questions, GGNS has revised the supporting analyses; the revised dose analyses are provided in Attachments 4 through 6. The description and justification of the changes provided in Attachment 1 of the original submittal has also been revised. It has been repeated here with change bars noting areas affected by the analysis changes. The changes made in this revision of Attachment 1 include:

- The definition of the term 'recently irradiated fuel', as used in the applicability statements for TS 3.3.6.1, 3.3.6.2, 3.6.1.3, 3.6.4.1, 3.6.4.2, 3.6.4.3, 3.8.2, 3.8.5, and 3.8.8, is being revised. The original request had proposed a 7-day period from shutdown; that period is now to be 24-hours.
- TS 3.7.3 had been proposed based on removal of the fans and filtration equipment. With this revision, the fans and high efficiency particulate air (HEPA) filters will still be covered by the Technical Specification; only the charcoal filters are now proposed to be deleted from the technical specification.
- The original submittal had proposed revising the GGNS Operating License Condition 2.C(38) to permit an allowable in-leakage rate of 1200 cfm. Based on the revised analyses supporting this revision, GGNS now proposes to increase the allowable in-leakage rate to 2000 cfm.

- Incorporates a proposed change of Technical Specification 5.5.7 to reflect the deletion of the Control Room Fresh Air (CRFA) charcoal filters. Note – changes to this specification have also been submitted with our response to Generic Letter 99-02 [see Reference 35]. The markup included with this letter reflects the outstanding change as well as the revisions proposed in this request.
- The description of the changes to TS 3.7.4 had been noted as similar to those for TS 3.8.2, 3.8.5, and 3.8.8. A separate description for TS 3.7.4 is now included in Attachment 1. Because no credit for control room ventilation is assumed in the Fuel Handling Analysis, the specification need not be applicable during fuel handling operations. Note that the markup of the technical specification and bases pages already correctly reflected this point; no further changes are proposed to the markup of this specification.
- The original submittal had referred to the draft regulatory guide DG-1081. Regulatory Guide 1.183 (reference 33) was issued on July 28, 2000. The text discussion has been reviewed and references updated where appropriate.

## SCOPE

This submittal represents a full-scope implementation of the new source term. Design basis accident analyses have been revised to define the impact of the new source term on doses to the public at the site boundary and to the operator in the control room. The impact of the new source term on plant equipment has been evaluated based on comparison of the new radiation environment to the current radiation environment specified for the qualification of the equipment.

Grand Gulf Nuclear Station (GGNS) is a pilot plant in the effort to evaluate the potential application of the insights regarding the alternative source term. In fact, GGNS is also the BWR evaluated by the NRC in the revised source term rebaselining effort using the NUREG-1465 insights. The results of that evaluation are documented in Reference 3.

The accident source term is a significant aspect of the design and licensing basis of a plant. As an input to the accident analyses that form the basis for the design and operation of the unit, a change in the source term can impact both the postulated accident consequences and the margin of safety. For this reason, the NRC has determined that any change to the design basis to use an alternative source term should be reviewed and approved by the NRC in the form of a license amendment. This submittal is presented for NRC review and approval consistent with the intent of the objectives of the pilot program and agreements made between the NRC and the pilot program licensees. The requested change has not been subject to a 10CFR50.59 review; it is being conservatively submitted as an unreviewed safety question in accordance with guidance noted in the draft rulemaking. In addition, there are changes to the Technical Specifications associated with this request.

Further, this request is based in part on a BWROG report [Reference 6] that has been recently approved by the NRC [see Reference 28]. GGNS had previously submitted [see Reference 1] the report, which justifies a time to cladding breach of 121 seconds for the BWR fleet. In addition GGNS has also made a submittal of a limited scope application of the alternative source term insights; that submittal was based on the timing of the radioactive release [Reference 2] and was

approved in Amendment 143. This request is consistent with the approach and methodology used in those submittals to apply the concepts associated with the alternative source term.

## SUMMARY OF CHANGES

The implementation of the new source term involves changes to the following Technical Specifications, Technical Specification Bases, and Operating License condition:

Technical Specification	Affected pages
1.1 Definitions	1.0-3
3.3.6.1 Primary Containment and Drywell Isolation Instrumentation	Bases change only
3.3.6.2 Secondary Containment Isolation Instrumentation	Bases change only
3.3.7.1 CRFA Instrumentation	3.3-73 through 3.3-76
3.6.1.3 Primary Containment Isolation Valves (PCIVs)	3.6-17 (and Bases change)
3.6.4.1 Secondary Containment	3.6-44 (and Bases change)
3.6.4.2 Secondary Containment Isolation Valves (SCIVs)	Bases change only
3.6.4.3 Standby Gas Treatment (SGT) System	Bases change only
3.7.3 Control Room Fresh Air System (CRFA)	3.7-6 through 3.7-8
3.7.4 Control Room AC System	3.7-9 through 3.7-11
3.8.2 AC Sources – Shutdown	3.8-18 through 3.8-20
3.8.5 DC Sources – Shutdown	3.8-31 through 3.8-33
3.8.8 Distribution Systems – Shutdown	3.8-40
5.5.7 Ventilation Filter Test Program	5.0-12 and 5.0-13
<b>Operating License Condition</b>	<b>Affected pages</b>
2.C(38)	15

Each of the changes is discussed in more detail below. Markups of the Technical Specification pages illustrating the details of the proposed changes are provided in Attachment 2 of the original request. Markups of Technical Specification 3.7.3, 5.5.7, and the affected Bases that are being revised or added in this letter are included in Attachment 2. These pages are intended to supplement or replace the similar pages in the original submittal.

## Technical Specification 1.1 - Definitions

Changes are proposed to two definitions in this section – DOSE EQUIVALENT I-131 and  $L_a$ . DOSE EQUIVALENT I-131 is defined as that concentration of I-131 (in units of microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. These words will not change. The Technical Specification definition goes on, however, to state: “The thyroid dose conversion factors (DCFs) used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, “Calculation of Distance Factors for Power and Test Reactor Sites.”” This happens to be the only reference to TID-14844 which appears in the Technical Specifications. This dose equivalent terminology is in turn used in Specification 3.4.8 and in Table 6.11.4-1, which appears in both the Technical Requirements Manual and the Offsite Dose Calculation Manual. The design basis dose analyses performed in support of this submittal utilize DCFs taken from Federal Guidance Report (FGR) 11 (Reference 21). It is proposed that the TID reference in the definition simply be reworded to refer to this report.

The maximum allowable primary containment leakage rate,  $L_a$ , is currently defined as 0.437% of the primary containment air weight per day at the calculated peak containment pressure. It is proposed that the value for the allowable leakage rate be increased to 0.682%. Much of this increase is associated with the requested increase in the MSIV leak rate, which is summarized in the discussion below of the proposed change to SR 3.6.1.3.8. It also includes a 10% increase in the allowable containment leak rate from other sources (i.e., from 0.350% to 0.385%.) This increased leakage has been evaluated in the LOCA dose analysis (Reference 12); the resulting offsite and control room doses are well within the acceptance criteria of the recently issued 10CFR50.67 and GDC 19.

## Technical Specification Bases 3.3.6.1, 3.3.6.2, 3.6.1.3, 3.6.4.1, 3.6.4.2, and 3.6.4.3

(Note – The changes summarized here deal only with a revision to previously proposed changes to the Bases for these specifications. Implementation of the alternative source term also involves additional changes to Technical Specifications 3.6.1.3 and 3.6.4.1 that are discussed separately below.)

Revisions to these six specifications were requested in Reference 16 to relax the operational constraints during an outage. That submittal, which was approved in amendment 139 to the GGNS Operating License, proposed that the Applicability Statements of these selected specifications be revised to utilize the term “recently irradiated fuel assemblies.” The use of this terminology recognizes that fission product decay after shutdown serves to reduce the dose consequences of fuel handling accidents. That submittal noted that the revision to the Fuel Handling Accident calculation utilizing the original GGNS licensing basis TID-14844 source term yielded an eight-day decay requirement before the operational constraints could be relaxed. The actual length of the required decay period was to be identified in the Bases for these specifications.

These specifications are not being further revised in this submittal. Rather, they have been included here to inform the NRC that the eight-day minimum decay requirement based on the original source term can be further reduced to a 24-hour period with the use of the alternative source term being requested here. This demonstrates a benefit of the alternative source term. Again, while these specifications are unaffected by this change,

GGNS intends to revise the Bases for these specifications to reflect the new interpretation of the term “recently irradiated fuel assemblies” as fuel which has been irradiated in the reactor within the previous 24 hours.

As an additional related aspect of the alternative source term, GGNS has determined that the term “recently irradiated fuel assemblies” may now be applied to several other specifications. These include the last five specifications listed in the table above. Those specific changes are discussed below.

#### Technical Specification 3.3.7.1 – CRFA Instrumentation

This specification requires the operability of the instrumentation associated with the initiation of the Control Room Fresh Air (CRFA) System. This system provides for the isolation of the Control Room and for the recirculation and filtration of the Control Room environment. Currently, the instrumentation addressed by this specification includes:

- Reactor Vessel Level – Low-Low,
- Drywell Pressure – High,
- Control Room Ventilation Radiation – High, and
- Manual Initiation.

With the implementation of the alternative source term, the only safety function to be required of the CRFA system is manual control room isolation. Analyses performed in support of this submittal (References 11 and 12) made no assumptions regarding automatic control room isolation. Instead, they credited manual action to isolate the control room. As discussed later, the analysis of the fuel handling accident (Reference 14) assumed no control room isolation. It is proposed that all automatic control room isolation features be deleted from the scope of the Technical Specifications. Implementation of this change will also involve:

1. The deletion of the three instruments providing the automatic isolation input signal from Table 3.3.7.1-1,
2. the deletion of the Surveillance Requirements 3.3.7.1.1 through 3.3.7.1.5, which are associated with establishing the operability for those instruments proposed for deletion,
3. the deletion of ACTIONS A, B1, C and D, which are also no longer applicable when the automatic isolation instruments are deleted from the specification. The wording of the proposed ACTION statement retains the intent of ACTIONS B.2 (which becomes A) and E (which becomes B),
4. the deletion of Table 3.3.7.1-1. All of the information from this table has now been incorporated into the revised specification, and
5. the revision of the LCO to clearly reflect that only the manual isolation function of the system is addressed by this specification.

In summary, this specification will require the operability of only the Manual Initiation instrumentation and will retain only current ACTIONS B.2 and E, and the current Surveillance Requirement 3.3.7.1.6, which establishes the operability of this device. The markup included in Attachment 2 of the January 21, 2000 submittal reflects the extensive changes being proposed to this specification.

#### Surveillance Requirement 3.6.1.3.8 - MSIV Leakage Rate

(Note – Specification 3.6.1.3 was also discussed above with regard to the relaxation of operational constraints during shutdown and the related impact on the Bases of this specification. See above change summary for Technical Specifications 3.3.6.1, 3.3.6.2, 3.6.1.3, 3.6.4.1, 3.6.4.2, and 3.6.4.3. The change described below affects a current surveillance requirement and is based on the LOCA dose analysis [Reference 12] performed to support the implementation of the alternative source term.)

This surveillance is associated with the specification for the operability of the primary containment isolation valves. It currently establishes the leak rate acceptance criterion for the MSIVs to be less than or equal to 100 scfh through all four main steam lines when tested at the calculated peak containment pressure. It is proposed that the allowable leak rate be increased to less than or equal to 100 scfh per main steam line with a total leak rate through all four main steam lines of less than or equal to 250 scfh. This increased leak rate value has been considered in the revised LOCA dose analysis (Reference 12); the dose consequences have been determined to be acceptable.

GGNS is not requesting the deletion of the Main Steam Isolation Valve Leakage Control System. Further, GGNS is not applying the steam line deposition methodology reported in NEDC-31858P [Reference 27]. As such, statements made in NEDC-31858P regarding a reduced “as-left” leak rate for any valve found to exceed the 100 scfh criterion, are not considered to be applicable to this GGNS application.

#### Surveillance Requirement 3.6.4.1.3 - Secondary Containment Drawdown

This surveillance is associated with the specification for the operability of the secondary containment. It currently establishes an allowable drawdown time of 120 seconds in which the Standby Gas Treatment System must be capable of drawing a vacuum in the Secondary Containment. It is proposed that the allowable drawdown time be increased to 180 seconds. The LOCA dose analysis performed in support of this submittal (Reference 12) utilized the revised assumption of 180 seconds of release prior to the establishment of the required drawdown in the secondary containment.

#### Technical Specification 3.7.3 – Control Room Fresh Air System

The Control Room Fresh Air (CRFA) System provides for the isolation of the ventilation flowpaths and for the recirculation and filtration of the Control Room atmosphere. The dose analyses of the LOCA and CRDA [References 11 and 12] considering the alternative source term take credit only for the particulate removal and isolation functions of the CRFA system. No credit was taken for iodine removal by the CRFA charcoal filters. On this basis, it is proposed that this specification be revised to address only the credited functions. In addition, the analysis of the Fuel Handling Accident [Reference 14] using the alternative source term takes no credit for the CRFA isolation or filtration. The Fuel Handling Accident represents the only accident during Modes 4 and 5 that can result in a significant release of radioactivity. On this basis, the Applicability of the revised

specification also deletes the fuel movement and CORE ALTERATIONS periods altogether. Since none of these accident analyses take credit for the charcoal filtration equipment of the CRFA, these components no longer meet any of the criteria of 10CFR50.36(c)(2)(ii) for inclusion in the Technical Specifications.

#### Technical Specification 3.7.4 – Control Room Air Conditioning System

It is proposed that the Applicability Statement for 3.7.4 be modified to no longer require the LCO to be met during fuel movement or CORE ALTERATIONS. Revised wording of both the Conditions and Required Actions is proposed to be consistent with the change in the Applicability Statement. As described in the UFSAR [Ref. 24], the accidents postulated to occur during core alterations, in addition to fuel handling accident, are:

- inadvertent criticality due to a control rod removal error or continuous control rod withdrawal error during refueling, and
- the inadvertent loading and operation of a fuel assembly in an improper location.

These events are not postulated to result in fuel cladding integrity damage. The only accident postulated to occur during fuel handling or CORE ALTERATIONS that results in a significant radioactive release is the fuel handling accident. As noted above for TS 3.7.3, no credit is taken for the operation of the control room ventilation system in the analysis of the fuel handling accident. Thus, the proposed deletion of the Technical Specification applicability requirements for fuel handling and CORE ALTERATIONS is acceptable. The LCO Applicability Statement related to operations with a potential for draining the reactor vessel are unaffected by the proposed changes.

#### Technical Specifications 3.8.2, 3.8.5, and 3.8.8

The Applicability Statements for each of the above LCOs are proposed to be modified from “when handling irradiated fuel assemblies” to “when handling *recently* irradiated fuel assemblies”. Also, revised wording of both the Conditions and Required Actions are proposed to be consistent with the change in the LCO Applicability Statement. The net result of this proposal is to establish a new term for that irradiated fuel that no longer contains sufficient fission products to require the operability of accident mitigation systems to meet the accident analysis assumptions. This new term is then used to define the conditions where fuel handling activities may represent situations in which significant radioactive releases can be postulated and to refine the appropriate operability requirements for the associated safety systems. The actual definition of the term recently irradiated fuel assemblies will be included in the Bases for each of these specifications and is described further in the Discussion section below.

The use of the term “recently irradiated fuel assemblies” provides a mechanism for applying a cutoff in fission product decay to the various specifications where the concept applies. The term is a plant-specific parameter that will be evaluated each fuel cycle. For the current fuel cycle, the term will be defined as those assemblies that have been in a critical reactor core within the previous 24 hours. The 24-hour period to be discussed in the Technical Specification Bases has been shown by analysis to provide sufficient decay such that, assuming the design basis fuel handling accident, radiological consequences are within the acceptance criteria of 10CFR50.67 and General Design Criteria 19 [Reference 7].

The changes proposed to these specifications are similar to those that had been proposed to specifications for other ESF systems in Reference 16 and approved in amendment 139 to the GGNS Operating License. Those specifications include 3.3.6.1, 3.3.6.2, 3.6.1.3, 3.6.4.1, 3.6.4.2, and 3.6.4.3. The changes to these specifications are consistent with those changes proposed by the Technical Specification Task Force in TSTF-51.

#### License Condition 2.C(38) - Control Room Leak Rate

The GGNS Operating License includes a condition that establishes the allowable control room leak rate. It also includes an increased allowable leak rate which would be permissible should construction on Unit 2 restart. It is proposed that the allowable leak rate be increased from 590 cfm to 2000 cfm. Further, based on the implementation of the alternative source term, the dose consequence analysis of the Fuel Handling Accident [Reference 14] has demonstrated that there need be no infiltration restrictions during shutdown. Also, because the Construction Permit for Unit 2 has been revoked [Reference 29], there is no longer a need to retain the Unit 2 construction contingency; it is proposed that the second sentence be deleted. Therefore, it is proposed that the wording of this License Condition be revised to read as follows:

EOI shall operate Grand Gulf Unit 1 during Modes 1 through 3 with an allowable control room leak rate not to exceed 2000 cfm.

## DISCUSSION

### Licensing Basis - Limiting Events

The design basis analyses of the three limiting events at GGNS have been revised in support of this submittal. The current licensing basis discussion of these accidents is included in the UFSAR in Section 15.6.5 for the Loss-of-Coolant Accident, 15.4.9 for the Control Rod Drop Accident, and 15.7.4 and 15.7.6 for the Fuel Handling Accidents in the Auxiliary Building and the Containment, respectively. The revised radiological evaluations of these events are developed in References 11, 12, and 14, which are included as attachments to this submittal.

In addition to the alternative source term inputs, several assumptions have been made in these analyses which differ from those described in the UFSAR. These revised assumptions form the basis for the changes requested to the Technical Specifications and the License Condition. Some of the key changes are:

1. MSIV leakage rates have been increased to consider a total leakage rate from all four main steam lines of up to 250 scfh.
2. Secondary containment drawdown time has been increased in the LOCA analysis from 2 to 3 minutes.
3. Control Room inleakage has been assumed to increase from 590 cfm to 2000 cfm for both of the events that can occur at power (i.e., the LOCA and the CRDA). An additional 10 cfm to account for opening of the doors, as recommended in Regulatory Guide 1.78, is also still considered. No credit has been assumed for the automatic isolation of the Control Room after these events; rather, manual isolation within 20 minutes after the accident has been assumed. Note that for the Fuel Handling Accident, no credit is taken for the isolation of the Control Room.
4. The containment leak rate is assumed to be 0.385% rather than the current 0.35%.
5. SGTS bypass flow has been reduced from 50 cfm to 1 cfm based on design changes that have been incorporated into the plant design.

### Licensing Basis - Other Events

As described in GGNS SAR Section 15.6.4, the main steamline break (MSLB) outside containment would release reactor coolant to the environment during the 5.5 seconds before the MSIVs are fully closed. Although NUREG-1465 does not affect the isotopic activity in the reactor coolant, the proposed change in the definition of DOSE EQUIVALENT I-131 would result in a different iodine inventory in the reactor coolant due to the application of the FGR-11 dose conversion factors rather than those in TID-14844. Consequently, a sensitivity evaluation is performed below to evaluate the impact of these revised dose conversion factors on the radiological consequences of this event.

As shown in the following table, the FGR-11 DCFs are considerably different from those reported in TID-14844 and would result in more flexibility in allowed iodine concentration in the reactor coolant. This change results in a 74% increase in the allowable iodine concentrations for the

Technical Specification Action Level of 0.2 µCi/g Dose Equivalent I-131 as shown below. The impact of this change is demonstrated by considering the product of the iodine DCF and allowable activity concentration. As shown below, the higher allowable iodine concentration is offset by the lower FGR-11 DCF such that the total thyroid dose would be less with the coolant iodine concentration calculated with the FGR-11 DCFs. No changes are being proposed that would impact the amount of coolant released in this event.

**Table 1**  
**Dose Conversion Factor Comparison**

Isotope	Thyroid Dose Conversion Factor (Rem/Ci)		Allowable Iodine Concentration (µCi/g) at 0.2 µCi/g Dose Equivalent I-131		Product (Rem/g)	
	TID-14844	FGR11	TID DCFs	FGR11 DCFs	TID-14844	FGR11
I-131	1.48E6	1.080E6	4.93E-02	8.58E-02	7.30E-02	9.27E-02
I-132	5.35E4	6.438E3	4.90E-01	8.51E-01	2.62E-02	5.48E-03
I-133	4.00E5	1.798E5	3.23E-01	5.62E-01	1.29E-01	1.01E-01
I-134	2.50E4	1.066E3	9.36E-01	1.63E+00	2.34E-02	1.74E-03
I-135	1.24E5	3.130E4	4.75E-01	8.26E-01	5.89E-02	2.59E-02
					3.11E-01	2.27E-01

This argument demonstrates that, as a result of the proposed changes, the offsite dose in the event of an MSLB would be expected to decrease. Control room doses are not currently reported for the MSLB event. However, a conservative estimate of the control room thyroid dose can be made by multiplying the EAB thyroid dose (currently reported in UFSAR Table 15.6-4) by the ratio of the control room  $\chi/Q$  value (based on a release from the steam tunnel blowout panels) to the EAB  $\chi/Q$  value applied in the SAR analysis. This calculation conservatively ignores the offsite dose reduction due to the application of the FGR11 DCFs as developed above for the offsite dose. As calculated below, the control room thyroid dose is not expected to exceed 18.9 Rem which is within the 30 rem requirement associated with the existing GDC 19.

$$\begin{array}{c}
 \text{Control Room } \chi/Q \text{ based on} \\
 \text{release from blowout panels} \\
 \nearrow \\
 5.82 \text{ Rem} * \frac{3.5\text{E} - 3}{1.08\text{E} - 3} = 18.9 \text{ Rem Thyroid} \\
 \nwarrow \quad \nearrow \\
 \text{EAB Thyroid Dose} \quad \text{EAB } \chi/Q \\
 \text{(SAR Table 15.6-4)} \quad \text{(SAR Table 15.6-2)}
 \end{array}$$

Other events involving reactor coolant only releases (i.e., no fuel failures), such as the feedwater line break outside containment (UFSAR Section 15.6.6) or the MSIV closure event (UFSAR Section 15.2.4) are bounded by the releases associated with the MSLB outside containment.

A number of other events in UFSAR Chapter 15 involve fuel failure and gap release. These events include:

- Pressure Controller Failure – Closed (SAR 15.2.1)
- Recirculation Pump Seizure in Single-Loop Operation (SAR 15.3.3)
- Misplaced Bundle Accident (SAR 15.4.7)

The fuel failures for these events were assumed to occur as a result of fuel rods experiencing departure from nucleate boiling. However, as demonstrated in Reference 1, fuel rods must become uncovered for a significant period of time (>1 minute) for cladding failure to occur. Although none of the above events would result in the core becoming uncovered, the misplaced bundle accident would result in transition boiling for a period longer than a few seconds. On this basis, and consistent with the discussion in Section 3.6 of Regulatory Guide 1.183, the pressure controller failure and pump seizure accident are not postulated to involve any gap release and have not been the subject of a detailed re-analysis as part of this submittal.

As described in SAR Section 15.4.7, the misplaced bundle accident is assumed to be undetected during operation and is conservatively assumed to result in the failure of the rods associated with the misplaced bundle and the four face-adjacent bundles. If these rods were to fail during normal power operation, this release would appear as fuel failures and the reactor coolant activity requirements on iodine and offgas nobles in Technical Specifications 3.4.8 and 3.7.5 respectively would ensure that the applicable dose criteria are satisfied. The worst-case scenario for this event would be during a shutdown or startup when the offgas system is unavailable. In this case, the release path for these source terms would be identical to that assumed for a control rod drop accident. With gap release from 5 bundles, the released source terms associated with a misplaced bundle accident would be bounded by the 16 bundles assumed to fail in the CRDA event. Even if the CRDA event were to result in the offsite limit of 6.3 Rem (from R.G. 1.183 Table 6), the failure of 5 bundles with the same release path would be expected to result in an offsite dose no greater than 2 Rem. Thus, as long as the CRDA meets its limit of 6.3 Rem, the misplaced bundle accident would meet the dose acceptance criteria for an infrequent event of 2.5 Rem (10% of the 50.67 limit). Since, as reported in Table 2 below, the GGNS CRDA was calculated to result in an EAB dose of 0.15 Rem, the misplaced bundle accident is expected to meet its 2.5-rem acceptance criterion without a specific dose calculation.

## **Accident Analyses and Results**

In developing this submittal, GGNS revised the design basis accident analyses. The analyses for those accident scenarios determined to represent controlling cases for the dose results are included for NRC review in this submittal as Attachments 4 through 6. Specifically,

Control Rod Drop Accident (Reference 11)	Attachment 4
LOCA analysis (Reference 12)	Attachment 5
FHA – Radiological Analysis (Reference 14)	Attachment 6

These calculations include the details of the design inputs and assumptions used in applying the alternative source term concepts to the GGNS. The dose results from these analyses are summarized below in Table 2. In addition to the accident analyses above, several other calculations were prepared to address topics of interest in establishing the alternative source term as the design basis for GGNS. These revised calculations will be provided under separate cover:

Suppression Pool pH and Iodine Re-Evolution Methodology (Reference 8)  
Suppression Pool pH Analysis (Reference 9)  
Doses from Iodine Re-evolution (Reference 10)

**Table 2**  
**Dose Results Using the Alternative Source Term**

Accident	EAB/LPZ Dose ( rem TEDE)			Control Room Dose (rem TEDE)	
	Calculated	Regulatory Limit		Calculated	Regulatory Limit
LOCA	13.12 / 5.32	25		3.65	5
CRDA	0.15 / 0.06	6.3		0.26	5
FHA	1.37 / note 2	6.3		1.40	5

Notes for Table 2 –

- 1) Regulatory Limits are the accident dose acceptance criteria taken from Rulemaking for “Use of Alternative Source Terms at Operating Reactors” (Reference 7) and Regulatory Guide 1.183 (Reference 33). The offsite dose limit is from 10CFR50.67(b)(2)i and the control room dose limit is from 10CFR50, Appendix A, GDC 19.
- 2) LPZ dose not calculated for the Fuel Handling Accident. The EAB atmospheric dispersion factor is larger than that of the LPZ.

### **Control Room Habitability**

The proposed changes include several items associated with the control room envelope and its ventilation system. Each of the changes, including the removal from technical specifications of the automatic isolation instrumentation, the Control Room Fresh Air System charcoal adsorbers, and the increase in the allowable in-leakage rate, has been modeled and evaluated in the design analyses prepared in support of this submittal. These conservative calculations demonstrate that the changes are acceptable and the control room envelope remains habitable following a design basis accident. The post-accident dose rates to the operators in the control room are within the regulatory acceptance criteria of General Design Criteria 19. While these changes represent a relaxation of the design features, EOI remains committed to ensuring plant personnel are adequately protected from any hazard that may affect their performance following a design basis event.

The above changes represent a proposal to revise the licensing basis for GGNS in the area of control room design. EOI is aware of NRC concerns that the design and operation of some control rooms may not be consistent with its design and licensing bases. EOI is actively participating in the industry initiative to develop guidance to aid plants in demonstrating that their design and licensing bases are understood and are satisfied. The tentative schedule for the industry effort is to issue final guidance for NRC review and endorsement by December 2000. GGNS would suggest that the review of the proposed changes to its licensing basis may proceed to completion independent of the NRC review and acceptance of the industry effort.

### **Equipment Qualification**

The NRC, in the Federal Register notice of the final Alternative Source Term Rule, provided a discussion of the topic of equipment qualification. Excerpts from the notice are paraphrased in the first two paragraphs below.

The re-baselining study prepared by the NRC staff (Reference 3) considered the impact of an AST on analyses of the postulated integrated radiation doses for plant components exposed to containment atmosphere radiation sources and those exposed to containment sump radiation sources. The study also concluded that the increased concentration of cesium in the containment sump could result in an increase in the postulated integrated radiation doses for certain plant components subject to equipment qualification. Further, the NRC has determined that it is necessary to consider the potential impact of the postulated cesium concentration in the containment sump water as it applies to all operating power reactors, not just to those licensees amending their design basis to use an AST.

Since the postulated increase in the post-accident integrated dose occurs well into the event scenario (i.e., well beyond 30 days), there is no adverse effect on equipment relied upon to perform safety functions immediately following an accident. Rather, this issue was found to affect equipment that is required to be operable longer than about 30 days to 4 months after an accident. As such, the NRC determined that continued plant operation does not pose an immediate threat to public health and safety. Also, should such long-term equipment fail there will not be an undue threat to public health and safety as protective actions for the public would have already been implemented by the time the postulated failure could occur. In addition, the time period between the onset of the event and the projected failure allows compensatory measures to be taken to prevent the equipment failure or to restore the degraded safety function. The NRC plans to evaluate this issue as a generic safety issue to determine whether further regulatory actions are justified. The final regulatory guide is expected to reflect the resolution of this generic safety issue.

Anticipating further NRC review of this issue and to ascertain the potential impact on the plant, GGNS has performed an evaluation of the impact of the implementation of AST on plant equipment. This evaluation has been performed qualitatively based on a comparison of the anticipated new radiation environment to the current radiation environment specified for the qualification testing of the equipment. The current equipment qualification data packages have not been revised. The acceptability of this approach of not revising the design basis Equipment Qualification analyses was suggested at the June 1999 NRC Workshop on the Alternative Radiological Source Term. In discussing a proposed draft of a new regulatory guidance document (DG-1081), the NRC noted it was not necessary to revise all design analyses; only those affected by the scope of any proposed changes should be revised. However, where sensitivity analyses or evaluations demonstrated that the current design to TID-14844 source term enveloped the new source term, re-analysis was not necessary. GGNS has reviewed the changes being proposed here and concluded that none of the changes, other than the use of the AST itself, is expected to have any adverse impact on radiation doses to equipment.

The major impact of the new source term data with respect to equipment qualification is an increase in the integrated dose contribution from the radioisotopes in the suppression pool fluid. Based on the conclusions from the revised source term rebaselining effort [Reference 3], the AST containment atmosphere gamma and beta integrated doses are expected to be enveloped by those GGNS calculated based on the TID-14844 source term. Even the doses from the suppression pool are enveloped by the original GGNS calculations for a period of about 145 days. The coping duration for EQ purposes at GGNS, however, is 180 days. The integrated dose after 180 days is conservatively estimated to be 12.5% higher than that based on the original source

term data per the EQ studies performed in the rebaselining analyses [Reference 13]. GGNS equipment has been qualitatively evaluated to demonstrate that there is adequate margin in the actual test dose to conclude that the equipment would continue to be qualified for the 180-day period.

### **Dose Acceptance Criteria**

The dose consequences associated with accident analyses revised for this submittal are presented in terms of “total effective dose equivalent” – TEDE. While the original regulatory guidance had categorized allowable values for thyroid, whole body, and skin doses, the new rule for the Alternative Source Term, 10CFR50.67, establishes the TEDE criteria. In the new rule, the GDC 19 acceptance criteria have been expanded to include a 5 rem TEDE criterion for plants requesting the use of the alternative source term. The GGNS accident analyses in support of this submittal utilize the alternative source term and have been evaluated against the new acceptance criteria. With the issuance of the new Rule, GGNS is able to consider the use of the new dose acceptance criteria without the need for any exemption request to the statements of the original regulations.

### **Risk Justification**

The impact of the proposed changes on the public health risk profiles was evaluated using the GGNS probabilistic safety assessment (PSA) models. The evaluation is summarized in Table 3.

The conclusions from this evaluation are that the public health risk impact in terms of each of the following risk metrics:

- Core Damage Frequency (CDF),
- Large Early Release Frequency (LERF), and
- Latent Cancer Fatalities (LCF)

is negligible. These conclusions are consistent with the risk evaluations/impact of the AST applications discussed in SECY-98-154 and NUREG/CR-6418 [References 3 and 30].

**Table 3**  
**Risk Evaluation of Changes**

Proposed Change Using AST	Changes or Potential Changes to PSA Model	Resulting Incremental Change to Plant Risk Profile		
		CDF [Level 1]	LERF [Level 2]	LCF [Level 3] [Note 1]
Relaxed secondary containment and control room requirements during refueling	This change does not impact the risk metrics evaluated with GGNS ORAM calculations (core damage risk and boiling risk). ORAM does not calculate the LERF risk profile; however, the LERF profile during refueling is expected to be much lower than that at normal at-power operation. This is primarily due to the energy associated with any release and the time frames associated with core damage and subsequent releases. By definition, LERF applies only when the releases occur prior to evacuation; for refueling conditions, the long time periods before core damage and release can occur allows for prior evacuation.	None	None [Note 2]	None [Note 2]
Relax secondary containment drawdown time by 50%	This change does not affect the CDF models. Secondary containment performance is present as an event tree question in the containment event trees (CET) in the level 2 PSA. The impact of drawdown time is, however, inconsequential to the accident progression as quantified by the CET. This change will not impact any of the questions, accident progression, or branching probabilities in the CETs; therefore, there is no measurable impact on the plant LERF profile	None	None	None
Control Room (CR) inleakage relaxation	The CRFA leakage or the recirculation, filtration, and isolation functions do not contribute to the CDF or LERF in any measurable manner.	None	None	None
Removal of automatic CR isolation	See above	None	None	None
Deletion of CRFA charcoal adsorbers	See above	None	None	None
Increase MSIV leak rate from 25/100 scfh to 100/250 scfh	Impact of MSIV leak rate on the level 2 accident progression phenomena and model results is not measurable. This conclusion is based on the significantly larger severe accident fission product releases involved in the LERF metric when compared to the relatively small MSIV leak rates. Therefore, the MSIV leak rates do not contribute to LERF.	None	None	None
Increase allowable	This change does not affect <ul style="list-style-type: none"> <li>Any of the elements of the CDF (Level 1) PSA model</li> </ul>	None	None	None

Proposed Change Using AST	Changes or Potential Changes to PSA Model	Resulting Incremental Change to Plant Risk Profile		
		CDF [Level 1]	LERF [Level 2]	LCF [Level 3] [Note 1]
containment leak rate by 10%	<ul style="list-style-type: none"> <li>Any of the containment event tree questions or branching probabilities in the Level 2 PSA model</li> </ul> <p>Impact of containment leak rate on the level 2 model is negligible compared to the severe accident releases; increased leakage also has the potential to (very slightly) delay the time at which ultimate containment failure pressure is reached.</p>			

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**Notes for Table 3**

**1:** GGNS has recently completed a limited scope Level 3 PSA study using the MACCS2 computer code. A review of the input to the Level 3 PSA model was performed to assure that there would be no significant changes to these input values as a result of the proposed Tech Spec changes, thus supporting the conclusions in this column, *i.e.*, no change to the latent cancer fatalities.

**2:** GGNS does not have LERF or Level 3 PSA models for shutdown; these conclusions were extrapolated from the CDF (Level 1) results for this scenario.

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**Supplemental Risk Discussion – Shutdown Controls**

The following discussion of shutdown risk is provided to supplement the analysis and justification of the changes to relax the operational constraints during shutdown. It is applicable primarily to those Technical Specifications affected by proposed changes regarding the terminology "recently irradiated fuel assemblies." This discussion was also included in Reference 16 with the original submittal of similar changes.

The containment and associated engineered safety feature systems are only required by the Technical Specifications during the specific events which are postulated to result in a significant release of radioactivity (e.g., fuel handling accident, drain down). As a result, the requirements of the Technical Specifications are based on the plant being in specified conditions and are not based on providing requirements associated with shutdown risk considerations. Shutdown risk issues are instead addressed by utility outage management programs that follow the guidance of NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management" [Reference 25]. NUMARC 91-06 Section 4.5 discusses the need to assure that secondary containment closure can be achieved to prevent fission product release during severe accidents. NUMARC 91-06 also identifies that the time to effect closure should be consistent with plant conditions (e.g., reactor coolant system inventory and decay heat load). Consistent with the industry's commitment in the letter from NUMARC's President, Mr. Byron Lee, Jr., to Mr. James M. Taylor of the NRC [Reference 26], GGNS has administrative controls in place to meet the recommendations of NUMARC 91-06 Section 4.5 for extended loss of decay heat removal events.

In the draft NUMARC 93-01 guideline, Section 11.2.6.5, "Safety Assessment for Removal of Equipment from Service During Shutdown Conditions," under the subheading of "Containment - Primary (PWR)/Secondary (BWR)", the following guidance is provided.

"... for plants which obtain amendments to modify Technical Specification requirements on primary or secondary containment operability and ventilation system operability during fuel handling or core alterations, the following guidelines should be included in the assessment of systems removed from service:

- During fuel handling/core alterations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification operability amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay.
- A single normal or contingency method to promptly close primary or secondary containment penetrations should be developed. Such prompt methods need not completely block the penetration or be capable of resisting pressure."

The purpose of the "prompt methods" mentioned above is to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored.

In the interim period until the revision to NUMARC 93-01 is endorsed as a formal industry position, GGNS has adopted these provisions for controlling the removal from service of systems, structures and components (SSC's) that are currently required by Technical Specifications during

core alteration/fuel handling periods. The GGNS administrative controls include those described in Reference 32.

Also, in accordance with Technical Specification 3.9.6, RPV Water Level – Irradiated Fuel, handling irradiated fuel in the reactor vessel can only occur when the water level in the reactor cavity is at the high water level. Thus, the proposed changes only affect containment requirements during relatively low risk times during refueling outages. Therefore, the proposed changes do not significantly increase the shutdown risk.

Additionally, the proposed Technical Specification changes do not affect the requirements to have the containment systems operable any time the unit is in MODE 1, 2, or 3 regardless of whether fuel handling is occurring in the spent fuel pool.

This change does not impact the GGNS ORAM calculations of risk metrics (core damage risk and boiling risk). ORAM does not calculate the Large Early Release Frequency (LERF) risk profile. Of those accidents during Modes 4 and 5 which are postulated to result in a release, the fuel handling accident produces a small release and the loss of shutdown cooling event is a much more slowly evolving scenario that allows evacuation prior to release. Therefore, the LERF profile during this operation is essentially zero.

## **RELATED REQUESTS**

GGNS has made other submittals related to the revised accident source term or Technical Specifications affected here. These submittals, which have now been approved, are discussed below.

### **BWROG Report on Gap Release Timing**

By letter dated May 6, 1997 (Reference 1), GGNS submitted a report prepared by the BWROG entitled "Prediction of the Onset of Fission Gas Release from Fuel in Generic BWR" (Reference 6). Based on assumptions described in the NUREG, it was recognized that additional analysis was needed to better establish the BWR-specific gap release characteristics. The report presented a conservative analysis determining the minimum time to fuel perforation for a generic BWR following a DBA LOCA with no emergency core cooling system (ECCS) injection. NUREG-1465 assumed the coolant activity phase lasted 30 seconds (based solely on PWR analyses), but recognized that plant specific analyses could justify longer times (see page 8 of Reference 4). The BWROG report was commissioned so that the BWR fleet would not be unduly penalized by the overly conservative assumptions made in NUREG-1465.

While this report was submitted on the GGNS docket, it was intended that the results could be applied on a generic basis and utilized by any BWR. The analysis was performed using a limiting plant configuration and fuel type. NRC-approved codes were used to calculate the minimum duration of the coolant activity phase described in the NUREG. The BWR coolant activity release phase, which represents the period of time from the start of the accident until the initiation of fuel perforation and the attendant gap release, is calculated to last 121 seconds. This conclusion has been utilized in the analyses supporting this full-scope submittal. The inputs, assumptions, and

results of the analyses performed for this full-scope submittal are compatible with those in the BWROG report.

Two other letters (References 18 and 23) submitted additional information to the NRC to support the review of the GGNS request for generic approval of the use of the BWROG report. An NRC Safety Evaluation accepting the use of this report for reference by BWRs was issued in Reference 28.

### **Limited Scope Application of NUREG-1465**

Another related outstanding submittal is the limited-scope application of the NUREG-1465 insights presented in letters dated November 3, 1998 and October 6, 1999 (References 2 and 31). That submittal was made as a part of the pilot program to evaluate the use of specific insights in NUREG-1465 to make licensing basis changes. GGNS credited the results of the BWROG report discussed above and proposed an increase in the allowable closure time for those primary containment isolation valves for which the basis for the closure requirement is only loss of coolant accident dose mitigation. That is, valves whose closure times may be restricted based on high energy line break or thermodynamic considerations were not affected by the request. The inputs, assumptions, and results of the analyses performed for this full-scope submittal are compatible with those used in that limited scope application. The requested change to the GGNS licensing basis was approved in Amendment 143 to the GGNS Operating License.

### **Fuel Handling Accident Operational Conditions**

A submittal (Reference 16) was made to the NRC regarding the results of a revised Fuel Handling Accident analysis performed using the original source term. This request was followed up with supplemental submittals providing information requested by the NRC (References 17 and 32). Based on the assumptions made in that analysis and the acceptable dose results, GGNS had proposed to relax selected constraints imposed during shutdown. The request recognized the benefit of radioactive decay in mitigating the consequences of accidents during shutdown; it was determined that, eight days after shutdown selected safety functions which had been imposed by the Technical Specifications were no longer needed. The requested changes were approved in amendment 139 to the GGNS Operating License.

### **NO SIGNIFICANT HAZARDS CONSIDERATIONS**

This proposed amendment to the Grand Gulf Nuclear Station (GGNS) Technical Specifications (TS) revises those specifications affected by the implementation of the alternative source term concepts in accordance with NUREG 1465. In addition, based on the alternative source term, changes are proposed to selected specifications associated with handling irradiated fuel in the primary or secondary containment and CORE ALTERATIONS. Specifically, the proposal uses a new term to describe irradiated fuel that contains sufficient fission products to require operability of accident mitigation systems to meet the accident analysis assumptions. The alternative source term changes affect the definitions, and the specifications for the Control Room Fresh Air System, MSIV leakage surveillance, Standby Gas Treatment System surveillance, and revises a license condition to increase the allowable control room inleakage. The specifications affected by the relaxation of the shutdown controls include those for the

Control Room HVAC system, and the electrical AC Sources, DC Sources and Distribution Systems during shutdown.

The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10CFR50.92(c). A proposed amendment to an operating license involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Entergy Operations Inc. has evaluated the no significant hazards considerations in its request for a license amendment. In accordance with 10CFR50.91(a), Entergy Operations Inc. is providing the analysis of the proposed amendment against the three standards in 10CFR50.92(c). A description of the no significant hazards considerations determination follows:

1. The proposed changes do not significantly increase the probability or consequences of an accident previously evaluated.

The alternative source term does not affect the design or operation of the facility; rather, once the occurrence of an accident has been postulated the new source term is an input to evaluate the consequences. The implementation of the alternative source term has been evaluated in revisions to the analyses of the limiting design basis accidents at Grand Gulf Nuclear Station. Based on the results of these analyses, it has been demonstrated that, even with the requested Technical Specification and Operating License changes, the dose consequences of these limiting events are within the regulatory guidance for use with the alternative source term. This guidance is presented in NUREG 1465, in 10CFR50.67, and in the associated Regulatory Guide 1.183.

A new term to describe irradiated fuel is used to establish operational conditions where specific activities represent situations where significant radioactive releases can be postulated. These operational conditions are consistent with the design basis analysis. Because the equipment affected by the revised operational conditions is not considered an initiator to any previously analyzed accident, inoperability of the equipment cannot increase the probability of any previously evaluated accident. The proposed requirements bound the conditions of the current design basis fuel handling accident analysis which concludes that the radiological consequences are within the acceptance criteria of NUREG 0800, Section 15.7.4 and General Design Criteria 19. As noted above, with the alternative source term implementation, the acceptance criteria are also being revised. The results of the revised Fuel Handling Accident demonstrate that the dose consequences are within the NRC regulatory guidance. This guidance is presented in NUREG 1465, in 10CFR50.67, and in the associated Regulatory Guide 1.183.

Therefore, the proposed changes do not significantly increase the probability or consequences of any previously evaluated accident.

2. The proposed changes would not create the possibility of a new or different kind of accident from any previous analyzed.

The alternative source term does not affect the design, functional performance, or operation of the facility or of any equipment within the facility. Similarly, it does not affect the design or operation of any equipment or systems involved in the mitigation of any accidents. The proposed changes to the Technical Specifications and the Operating License, while they revise certain performance requirements, do not involve any physical modifications to the plant. Therefore, the proposed changes associated with the alternative source term do not create the possibility of a new or different kind of accident from any previous analyzed.

The new term to describe irradiated fuel is used to establish operational conditions where specific activities represent situations where significant radioactive releases can be postulated. These operational conditions are consistent with the design basis analyses. The relaxation of selected shut down controls has been modeled in revised analyses. The proposed changes do not introduce any new modes of plant operation and do not involve physical modifications to the plant. Therefore, the proposed changes related to shutdown controls based on the alternative source term do not create the possibility of a new or different kind of accident from any previous analyzed.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously analyzed.

3. The proposed changes do not involve a significant reduction in a margin of safety.

The changes above are basically associated with the implementation of a new licensing basis for Grand Gulf Nuclear Station. Approval of the basis change from the original source term in accordance with TID-14844 to the new alternative source term of NUREG-1465 is requested by this submittal. The results of the accident analyses revised in support of this submittal, and considering the requested Technical Specification and Operating License changes, are subject to revised acceptance criteria. These analyses have been performed using conservative methodologies as outlined in the currently proposed regulatory guidance. Safety margins and analytical conservatisms have been evaluated and are well understood. The analyzed events have been carefully selected and margin has been retained to ensure that the analyses adequately bound all postulated event scenarios. The dose consequences of these limiting events are within the acceptance criteria also found in the latest regulatory guidance. This guidance is presented in NUREG 1465, in 10CFR50.67, and in the associated Regulatory Guide 1.183.

The proposed changes continue to ensure that the doses at the exclusion area and low population zone boundaries as well as control room, are within the corresponding regulatory limit. In a similar way, the results of the existing analyses demonstrated that the dose consequences were within the applicable NRC-specified regulatory limit. Specifically, the margin of safety for these accidents is considered to be that provided by meeting the applicable regulatory limit, which, for most events, is conservatively set below the 10CFR100 limit. With respect to the control room personnel doses, the margin of safety is the difference between the 10CFR100 limits and the regulatory limit defined by 10CFR50, Appendix A, Criterion 19 (GDC 19).

Therefore, because the proposed changes continue to result in dose consequences within the applicable regulatory limits, they are considered to not result in a significant reduction in a margin of safety.

Based on the above evaluation, operation in accordance with the proposed amendment involves no significant hazards considerations.

## REFERENCES

- 1) Letter from W.K. Hughey to NRC Document Control Desk; "Submittal of BWROG Report- Prediction of the Onset of Fission Gas Release from Fuel in Generic BWR. Application of NUREG-1465 Source Terms for Grand Gulf Nuclear Station Rebaselining Study", GNRO-97/034, May 6, 1997.
- 2) Letter from W.K. Hughey to NRC Document Control Desk; "GGNS Pilot Application Submittal of the NUREG-1465 Revised Source Term Insights," GNRO-98/085, November 3, 1998.
- 3) NRC Letter, L. Joseph Callan to The Commissioners; "Results of the Revised (NUREG-1465) Source Term Rebaselining for Operating Reactors", SECY 98-154, June 30, 1998.
- 4) U.S. Nuclear Regulatory Commission; "Accident Source Terms For Light-Water Nuclear Power Plants", NUREG-1465, February 1995.
- 5) U.S. Atomic Energy Commission; "Calculation of Distance Factors For Power And Test Reactor Sites", TID-14844, March 1962.
- 6) General Electric Company Report; "Prediction of the Onset of Fission Gas Release from Fuel in Generic BWR", July 1996.
- 7) Federal Register, Volume 64, Number 246, pages 71990 through 72002, Final Rule – Use of Alternative Source Terms at Operating Reactors, dated December 23, 1999.
- 8) GGNS Engineering Report, "Suppression Pool pH and Iodine Re-Evolution Methodology," Revision 2.
- 9) GGNS Calculation XC-Q1111-98013, Revision 1, "Suppression Pool pH Analysis."
- 10) GGNS Calculation XC-Q1111-98014, Revision 2, "Doses From Iodine Re-evolution."
- 11) GGNS Calculation XC-Q1111-98016, Revision 1, "Control Rod Drop Accident Radiological Analysis with Revised Source Terms."
- 12) GGNS Calculation XC-Q1111-98017, Revision 1, "LOCA Dose Analysis with Revised Source Terms."
- 13) Sandia National Laboratories, Letter Report, "Evaluation of Radiological Consequences of Design Basis Accidents at Operating Reactors Using the Revised Source Term", dated September 28, 1998.
- 14) GGNS Calculation XC-Q1111-98019, Revision 1, "Design Basis Fuel Handling Accident Radiological Analysis with Revised Source Terms."
- 15) NRC Draft Regulatory Guide, DG-1081, "Alternative Radiological Source Terms for Evaluating the Radiological Consequences of Design basis Accidents at Boiling and Pressurized Water Reactors."

- 16) Letter GNRO-99/00049, Fuel Handling Accident Operational Conditions, Proposed Amendment to the Operating License (LDC 1999-051), dated June 23, 1999.
- 17) Letter GNRO-99/00063, Information Supporting the Review of Fuel Handling Accident Operational Conditions, Proposed Amendment to the Operating License (LDC 1999-051), dated August 6, 1999.
- 18) Letter GNRO-94/00131, Fuel Handling Accident Operational Conditions, Proposed Amendment to the Operating License (PCOL-93/08), dated November 9, 1994.
- 19) Letter GNRO-95/00090, Fuel Handling Accident Operational Conditions, Proposed Amendment to the Operating License (PCOL-93/08 Revision 1), dated August 4, 1995.
- 20) Letter GNRO-96/00048, Fuel Handling Accident Operational Conditions, Proposed Amendment to the Operating License, Additional Information, Dated April 24, 1996.
- 21) Federal Guidance Report 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion", Second Printing 1989.
- 22) Federal Guidance Report 12, "External Exposure to Radionuclides in Air, Water, and Soil", 1993.
- 23) Letter from William Rasin, Duke Engineering and Services, to the Document Control Desk, Information Supporting the Review of Generic Alternate Source Term Request", referencing the GGNS Docket 50-416, dated July 16, 1999.
- 24) GGNS Updated Final Safety Analysis Report, various sections.
- 25) NUMARC 91-06, Guidelines for Industry Actions to Assess Shutdown Management, December, 1991.
- 26) Letter GNRO-99/00057, Information Supporting Review of Generic Alternate Source Term Request, dated July 14, 1999.
- 27) General Electric Technical Report, NEDC-31858P, BWROG Report For Increasing MSIV Leakage Rate Limits and Elimination of Leakage Control Systems.
- 28) NRC Letter to W.A. Eaton from S.P. Sekerak, "Acceptance of Boiling Water Reactor Owners' Group (BWROG) Report, "Prediction of the Onset of Fission Gas Release from Fuel in Generic BWR," report dated July 1996, letter dated September 9, 1999.
- 29) NRC Letter to W. Cottle from T.R. Quay, "Revocation of the Construction Permit," dated August 21, 1991 (assigned letter number GNRI-91/00176).
- 30) NUREG/CR-6418, "Risk-Importance of Containment and Related ESF System Performance Requirements," prepared by H.P. Nourbaksh, et al.
- 31) Letter GNRO-99/00077, "Pilot Limited Scope Application of NUREG-1465 Alternative Source Term Insights," dated October 6, 1999.

- 32) Letter GNRO-99/00075, "Fuel Handling Accident Operational Conditions," dated October 4, 1999.
- 33) Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors.
- 34) NRC Letter to W.A. Eaton from S.P. Sekerak, "Issuance of Amendment re: Implementation of Alternate Source Term Limited Scope Application for the Timing of the Onset of Gap Activity Release", dated March 22, 2000.
- 35) Letter CNRO-99/00026, "Proposed Amendment to Technical Specifications, Laboratory Testing of Activated Charcoal," dated November 23, 1999.

## **Attachment 2**

### **Markups of Affected Technical Specification and Bases Pages**

#### **Note –**

This attachment includes only those markups that are revised or are to be added to the markups of the January 21, 2000 submittal. Please replace the markups of TS 3.7.3 and its Bases with the attached pages. The markups of TS 5.5.7 are added to the change request by this letter.

CRFA System  
3.7.3

3.7 PLANT SYSTEM

3.7.3 Control Room Fresh Air (CRFA) System

LCO 3.7.3 Two CRFA subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,  
~~During movement of irradiated fuel assemblies in the primary~~  
~~or secondary containment,~~  
~~During CORE ALTERATIONS,~~  
During operations with a potential for draining the reactor  
vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRFA subsystem inoperable.	A.1 Restore CRFA subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)

CRFA System  
3.7.3

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time of Condition A not met during OPDRVs.</p> <p><del>movement of irradiated fuel assemblies in the primary or secondary containment, during CORE ALTERATIONS, or during OPDRVs.</del></p>	<p>NOTE LCO 3.0.3 is not applicable.</p>	
	<p>C.1 Place OPERABLE CRFA subsystem in isolation mode.</p>	Immediately
	<p>OR</p> <p>C.2.1 Suspend movement of irradiated fuel assemblies in the primary and secondary containment.</p>	Immediately
	<p>AND</p> <p>C.2.2 Suspend CORE ALTERATIONS.</p> <p>AND</p> <p>C.2.3 Initiate action to suspend OPDRVs.</p>	Immediately
D. Two CRFA subsystems inoperable in MODE 1, 2, or 3.	D.1 Enter LCO 3.0.3.	Immediately

(continued)

CRFA System  
3.7.3

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two CRFA subsystems inoperable during movement of irradiated fuel assemblies in the primary or secondary containment, during CORE ALTERATIONS, or during OPDRVs.	E.1 Suspend movement of irradiated fuel assemblies in the primary and secondary containment.	Immediately
	AND E.2 Suspend CORE ALTERATIONS.	Immediately
	AND E.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Operate each CRFA subsystem for $\geq 10$ continuous hours with the heaters operating.	31 days
SR 3.7.3.2 Perform required CRFA filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3 Verify each CRFA subsystem actuates on an actual or simulated initiation signal.	18 months

CRFA System  
B 3.7.3

B 3.7 PLANT SYSTEMS

B 3.7.3 Control Room Fresh Air (CRFA) System

BASES

BACKGROUND

The CRFA System provides a radiologically controlled environment from which the unit can be safely operated following a Design Basis Accident (DBA).

INSERT B3.7-11A

(optional)

The safety related function of the CRFA System used to control radiation exposure consists of two independent and redundant high efficiency air filtration subsystems for treatment of recirculated air or outside supply air. Each subsystem consists of a demister, an electric heater, a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section, a second HEPA filter, a fan, and the associated ductwork and dampers. Demisters remove water droplets from the airstream. Prefilters and HEPA filters remove particulate matter that may be radioactive. The charcoal adsorbers provide a holdup period for gaseous iodine, allowing time for decay.

, if utilized,

INSERT  
B3.7-11B

~~In addition to the safety related standby emergency filtration function, parts of the CRFA System are operated to maintain the control room environment during normal operation. Upon receipt of the initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel), the CRFA System automatically switches to the isolation mode of operation to prevent infiltration of contaminated air into the control room. A system of dampers isolates the control room, and control room air flow is recirculated and processed through either of the two filter subsystems.~~

may be

The CRFA System is designed to maintain the control room environment for a 30 day continuous occupancy after a DBA, per the requirements of GDC 19. CRFA System operation in maintaining the control room habitability is discussed in the UFSAR, Sections 6.5.1 and 9.4.1 (Refs. 1 and 2, respectively).

APPLICABLE  
SAFETY ANALYSES

The ability of the CRFA System to maintain the habitability of the control room is an explicit assumption for the safety analyses presented in the UFSAR, Chapters 6 and 15 (Refs. 3 and 4, respectively). ~~The isolation mode of the CRFA System~~

(continued)

### **Proposed inserts to Bases for TS 3.7.3**

#### INSERT B 3.7-11 A

redundant isolation dampers in each inlet and exhaust flow path. The system also includes

#### Insert B 3.7-11 B

With the implementation of the alternative source term (Reference 7), the filtration of elemental and organic iodine is no longer credited in the accident analyses and is not a safety-related function.

#### Insert B 3.7-12 A

The CRFA System is assumed to isolate the control room in response to manual initiation following a loss of coolant accident, main steam line break, or control rod drop accident. Analyses of these events have assumed the control room would be isolated for at least three days. At that time, isolation was terminated and the control room was again ventilated with filtered (i.e., HEPA) outside air. Safety analysis of the fuel handling accident has demonstrated that control room isolation is not required for this accident.

BASES

REPLACE w/ INSERT B3.7-12A

APPLICABLE  
SAFETY ANALYSES  
(continued)

is assumed to operate following a loss of coolant accident, main steam line break, fuel handling accident, and control rod drop accident. The radiological doses to control room personnel as a result of the various DBAs are summarized in Reference 4. No single active or passive failure will cause the loss of outside or recirculated air from the control room.

The CRFA System satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two redundant subsystems of the CRFA System are required to be OPERABLE to ensure that at least one is available, assuming a single failure disables the other subsystem. Total system failure could result in a failure to meet the dose requirements of GDC 19 in the event of a DBA.

The CRFA System is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both subsystems. A subsystem is considered OPERABLE when its associated:

- a. Fan is OPERABLE; if utilized,
- b. HEPA filter and charcoal adsorber are not excessively restricting flow and are capable of performing their filtration functions; and
- c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors. The control room boundary is maintained when the boundary can be rapidly isolated and established to meet in-leakage limits as outlined in Ref. 6.

APPLICABILITY

In MODES 1, 2, and 3, the CRFA System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining the CRFA System

(continued)

CRFA System  
B 3.7.3

BASES

APPLICABILITY  
(continued)

OPERABLE is not required in MODE 4 or 5, except ~~for the following situations under which significant radioactive releases can be postulated:~~

- a. During operations with a potential for draining the reactor vessel (OPDRVs);
- b. During CORE ALTERATIONS; and
- c. ~~During movement of irradiated fuel assemblies in the primary or secondary containment.~~

ACTIONS

A.1

With one CRFA subsystem inoperable, the inoperable CRFA subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CRFA subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in loss of CRFA System function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

B.1 and B.2

In MODE 1, 2, or 3, if the inoperable CRFA subsystem cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

and C.2

~~C.1, C.2.1, C.2.2, and C.2.3~~

The Required Actions of Condition C are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations.

(continued)

BASES

ACTIONS

~~C.1, C.2.1, C.2.2, and C.2.3~~ <sup>and C.2</sup> (continued)

Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of irradiated fuel assemblies in the primary or secondary containment, during CORE ALTERATIONS, or during OPDRVs, if the inoperable CRFA subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CRFA subsystem may be placed in the isolation mode. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action C.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the primary and secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

D.1

If both CRFA subsystems are inoperable in MODE 1, 2, or 3, the CRFA System may not be capable of performing the intended function and the unit is in a condition outside of the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

~~E.1, E.2, and E.3~~ <sup>2</sup>

During movement of irradiated fuel assemblies in the primary or secondary containment, during CORE ALTERATIONS, or during

(continued)

CRFA System  
B 3.7.3

BASES

ACTIONS

E.1, E.2, and E.3 (continued)

OPDRVs, with two CRFA subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the primary and secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. If applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE  
REQUIREMENTS

SR 3.7.3.1

This SR verifies that a subsystem in a standby mode starts from the control room on demand and continues to operate. Standby systems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every month provides an adequate check on this system. Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Furthermore, the 31 day Frequency is based on the known reliability of the equipment and the two subsystem redundancy available.

if present,

SR 3.7.3.2

This SR verifies that the required CRFA testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CRFA filter tests are in accordance with Regulatory Guide 1.52 (Ref. 5). The VFTP includes testing HEPA filter performance, ~~charcoal adsorber efficiency,~~ and

(continued)

CRFA System  
B 3.7.3

BASES

SURVEILLANCE  
REQUIREMENTS

SR 3.7.3.2 (continued)

minimum system flow rate, ~~and the physical properties of the activated charcoal (general use and following specific operations)~~. Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.3.3

This SR verifies that each CRFA subsystem starts and operates and that the isolation valves close in  $\leq 4$  seconds on an actual or simulated initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.7.1.6 overlaps this SR to provide complete testing of the safety function. While this Surveillance can be performed with the reactor at power, operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. UFSAR, Section 6.5.1.
2. UFSAR, Section 9.4.1.
3. UFSAR, Chapter 6.
4. UFSAR, Chapter 15.
5. Regulatory Guide 1.52, Revision 2, March 1978.
6. Engineering Evaluation Request 95/6213, Engineering Evaluation Request Response Partial Response dated 12/18/95.

7. Amendment — to GGNS Operating License

Programs and Manuals  
5.5

5.5 Programs and Manuals (continued)

5.5.7 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2.

- a. Demonstrate for each of the ESF systems that an inplace test of the high efficiency particulate air (HEPA) filters shows a penetration and system bypass < 0.05% when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 at the system flowrate specified below  $\pm$  10%:

<u>ESF Ventilation System</u>	<u>Flowrate</u>
SGTS	4000 cfm
CRFA	4000 cfm

- b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass < 0.05% when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 at the system flowrate specified below  $\pm$  10%:

<u>ESF Ventilation System</u>	<u>Flowrate</u>
SGTS	4000 cfm
CRFA	4000 cfm

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the ~~methyl iodide penetration less than the value specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, Regulatory Position C.6.a and greater than or equal to the relative humidity specified below:~~

<u>ESF Ventilation System</u>	<u>Penetration</u>	<u>RH</u>
SGTS	<del>0.175%</del> 0.5%	70%
CRFA	<del>0.175%</del> 2.5%	70%

ASTM D3803-1989 at a temperature of 30°C and (continued)

CHANGE PROPOSED  
IN 11-23-99 RESPONSE  
TO GENERIC LETTER 99-02.

Programs and Manuals  
5.5

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

- (if used)
- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 at the system flowrate specified below  $\pm 10\%$ :

<u>ESF Ventilation System</u>	<u>Delta P</u>	<u>Flowrate</u>
SGTS	9.2" WG	4000 cfm
CRFA	7.2" WG	4000 cfm

- e. Demonstrate that the heaters for each of the ESF systems dissipate the value specified below when tested in accordance with ANSI N510-1975 (except for the phase balance criteria stated in Section 14.2.3):

<u>ESF Ventilation System</u>	<u>Wattage</u>
SGTS	48 $\pm$ 5.0 kW
CRFA	20.7 $\pm$ 2.1 kW

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

5.5.8 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the main condenser offgas treatment system and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

- a. The limits for concentrations of hydrogen in the main condenser offgas treatment system and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and

(continued)

**Attachment 3**

**Responses to the Balance of the Requests for Additional Information**

GGNS has received a total of seventeen questions regarding our Alternative Source Term request in two letters dated May 9, 2000 and August 9, 2000. GGNS letter dated June 29, 2000 (GNRO-2000/0052) provided the response to questions 1 through 9. Questions 11-14 were addressed by GGNS letter dated September 1, 2000 (GNRO-2000/0062). The responses to the remaining questions are provided below.

10. The radiological consequence doses for three release pathways are shown in Table 7-1, Summary of TRANSACT Results, of Attachment 5 ["LOCA Dose Analysis with Revised Source Terms"] of your January 21, 2000 submittal. Show the dose contributions from each release pathway (ESF, MSIV, and containment leakages) for the exclusion area boundary.

**Response:**

For the worst-case EAB dose scenario (failure of electrical division to outboard MSIV LCS), the following table summarizes the contributions to the sliding 2-hr EAB dose.

Pathway	Fraction of Total
ESF Liquid Leakage	~0%
MSIV Leakage	~85%
Containment Leakage	~15%

As expected, the MSIV leakage, which bypasses the holdup and spray removal in the GGNS containment structure is the primary contributor to the EAB dose.

15. You used Equation 3-5d in page 10 of Attachment 7 [Engineering Report GGNS-98-0039] to calculate the concentration of  $(H^+)_{final}$  ions in the suppression pool. This equation is approximately correct at 25°C. The concentration of  $H^+$  increases with water temperature, lowering the pH. State the maximum expected suppression pool water temperature following a design basis accident. Provide potential reduction in calculated pH values at the maximum pool water temperature within the expected pH ranges.

**Response:**

Section 3 of the engineering report will be revised to consider the temperature dependence of the ionization constant with the following equation.

$$-\log K_w(T) = 15.5129 - 2.24E-2 * T + 3.352E-5 * T^2$$

where:

$K_w$  = ionization constant for water, and  
 $T$  = pool temperature (°F) up to 212 °F

Although the impact of pool temperature on the ionization constant is small at the depressed pH values associated with iodine re-evolution, it is appropriate to consider it in order to accurately characterize the pH values of alkaline solutions at elevated temperatures.

16. In Section 3.3, "Hydrochloric Acid Production" of Attachment 7 [Engineering Report GGNS-98-0039], you used the model which, although based on NUREG/CR-5950, differed in that instead of expressing the energy for production of hydrochloric acid in terms of the radiative surface flux to the surface of Hypalon, you used average radiation doses absorbed by this material. Using this methodology may cause some underestimation of the absorbed beta energy and, consequently, generation of hydrogen chloride. In order to clarify the issue, we would like you to calculate generation of hydrogen chloride using the methodology described in NUREG/CR-5950.

**Response:**

Appendix A of the engineering report in Attachment 7 has been revised to calculate the generation of HCl using the methodology in Appendix B to NUREG/CR-5950 via an energy flux approach. The pH analysis will be revised to apply this energy flux methodology.

17. In Section 5.4 of Attachment 8 [Suppression Pool pH Analysis], you calculated post-loss of coolant accident nitric acid production in the suppression pool water using the integrated radiation dose in the pool. The staff finds that you have not included beta radiation dose, in Section 5.1 of Attachment 8, as a radiation source term and therefore, the staff assumes that you have not considered suppression pool beta dose in production of nitric acid. Revise your pool water dose calculation to include both gamma and beta radiation to determine the associated impact on the suppression pool water pH transient.

**Response:**

The post-LOCA suppression pool radiation dose will be revised to include beta decay. The resulting integrated doses are incorporated into the revised pH analysis.

**Attachment 4**

**Control Rod Drop Accident Radiological Analysis with Revised Source Terms  
XC-Q1111-98016, Revision 1**

<b>DESIGN ENGINEERING CALCULATION</b> <b>GRAND GULF NUCLEAR STATION</b> <b>UNIT ONE</b>		<b>CALC NO.:</b> <u>XC-Q1111-98016</u> <b>REVISION:</b> <u>1</u> <b>PAGE</b> <u>i</u> of <u>iii</u>	
<b>TITLE:</b> <u>Control Rod Drop Accident Radiological Analysis with Revised Source Terms</u>			
<b>REVISION STATUS</b> <input type="checkbox"/> Pending <input checked="" type="checkbox"/> Final <input type="checkbox"/> Canceled	<b>SUPERSEDED BY:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<b>SUPERSEDES:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<input checked="" type="checkbox"/> Safety Related <input type="checkbox"/> Non Safety Related <input type="checkbox"/> Appendix B
<b>ORG CODE:</b> <u>NPE-Safety Analysis</u>		<b>CALC TYPE</b> <u>NUCSAFE</u>	
<b>KEYWORD(S):</b> <u>ACCIDENT</u> <u>DOSE</u>		<b>AFFECTED COMPONENT(S):</b> (add sheets as needed) <u>N/A</u>	
<b>SYSTEM(s):</b> <u>N/A</u>		<b>COMMENT(s):</b> <u>N/A</u>	
<b>SOFTWARE USED FOR CALCULATION:</b> <div style="display: flex; justify-content: flex-end; align-items: center; gap: 20px;"> <input type="checkbox"/> Yes           <input checked="" type="checkbox"/> No         </div>			
<b>Software Manufacturer:</b> _____		<b>Software Name/ Program No:</b> _____	
		<b>Version/ Release No:</b> _____	
<b>REVIEW AND APPROVAL</b>			
<b>PREPARED BY:</b> <u>G.E. Broadbent</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>9/27/00</u>	
<b>CHECKED BY:</b> <u>Marvin Morris</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/4/00</u>	
<b>REVIEWED BY:</b> <u>M.D. Withrow</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Supervisor Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/11/00</u>	
<b>APPROVED BY:</b> <u>M.D. Withrow</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Responsible Manager Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/11/00</u>	

**REVISION STATUS SHEET****ENGINEERING CALCULATION REVISION SUMMARY**

<b><u>REVISION</u></b>	<b><u>DATE</u></b>	<b><u>DESCRIPTION</u></b>
0	6/9/99	Issue for use
1	10/11/00	Revised control room model for CR-GGN-2000-0737, $\chi/Q$ values per CR-GGN-2000-0847, increased CR inleakage, and credit for CRFA HEPA filters

\*\*\*\*\*

**SHEET REVISION STATUS**

<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>
i	1	6	1	14	1
ii	1	7	1	15	1
iii	1	8	1		
1	1	9	1		
2	1	10	1		
3	1	11	1		
4	1	12	1		
5	1	13	1		

\*\*\*\*\*

**APPENDIX/ATTACHMENT REVISION STATUS**

<b><u>APPENDIX NO.</u></b>	<b><u>REVISION</u></b>	<b><u>ATTACHMENT NO.</u></b>	<b><u>REVISION</u></b>
A	1	1	1
		2	1
		3	1

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ENTERGY

**CALCULATION SHEET**Sheet 1 Cont on 2Calculation No. XC-Q1J11-98016Rev. 1Prepared By J.S.B. Date 9/27/00 Checked By MAW Date 10/4/01**1.0 PURPOSE**

This calculation assesses the offsite and control room radiological impacts associated with a design basis control rod drop accident (CRDA) with the NUREG-1465 [1] source term assumptions. The following relaxations to the current plant configuration are considered.

- No automatic control room isolation.
- No credit for control room fresh air supply system charcoal beds.
- Increased control room inleakage.

Revision 1 of this calculation addresses the TRANSACT deficiency reported in CR-GGN-2000-0737, in which the TRANSACT post-release timestep can impact the control room dose calculation. Consequently, this calculation performs this dose evaluation analytically. This revision also applies the recent Staff guidance and revised  $\chi/Q$  values calculated in response to CR-GGN-2000-0847. Confirmatory calculations with the most recent version of the NRC's RADTRAD code and a new GGNS code are also performed. A control room inleakage of 2010 cfm is applied compared to the 1210 cfm assumed in Rev. 0 of this calculation. Also, the Control Room Fresh Air Supply system HEPA filters are credited in this revision.

**2.0 BACKGROUND**

The current GGNS CRDA radiological analysis is reported in Calculation XC-Q1J11-94003 [2] and applies the source term assumptions in Appendix A to Standard Review Plan (SRP) Section 15.4.9 [3]. This guidance suggests a scenario, in which fuel failures release source terms into the reactor coolant from which a fraction reach the condenser, which leaks to the environment. The source term assumptions in the current analysis consider the gap fractions reported in Reg. Guide 1.77 [4].

This calculation assumes the identical release scenario; however, the source term release fractions, chemical species distribution, and removal mechanisms are based on those reported in the NRC guidance in Regulatory Guide 1.183 [18].

Conservatisms in this calculation include the following.

1. All impacted fuel is assumed to have been operating at high peaking factors and maximum exposures although (i) the current GGNS core designs do not put peaking fuel bundles in face adjacent locations and (ii) the core operating limits on power density would prohibit high-exposure bundles from being at high peaking factors.
2. Fuel damage assumptions bound those calculated by the fuel vendor.
3. Meteorological dispersion factors bound those generated from the GGNS met data.



ENTERGY

**CALCULATION SHEET**Sheet 2 Cont on 3Calculation No. XC-Q1J11-98016Rev. 1Prepared By LSB Date 9/27/00 Checked By MVM Date 10/4/00**3.0 GIVEN****3.1 Regulatory Guide 1.183 Compliance****3.1.1 Section 4.1 of RG 1.183**

This calculation applies an offsite dose calculation methodology consistent with that described in Section 4.1 of RG 1.183.

1. This calculation generates the resulting doses in terms of TEDE. Although the initial core source terms were generated with ORIGEN and consider the impact of daughter products during operation, this calculation does not include daughter production during the release period. Benchmarks with the RADTRAD code demonstrate that the impact of daughters for this event is negligible. Section 3.2.5 describes the source term assumptions in more detail.
2. This calculation applies the inhalation dose conversion factors from Federal Guidance Report 11 [15]. In most cases, these DCFs are taken directly from FGR 11; however, in some cases, the DCFs applied in this calculation include the DCFs of the isotope's decay products consistent with RADTRAD as noted in NUREG/CR-6604 [17] Table 1.4.3.3-2. These values are reported in Table 3-1.
3. This calculation applies the recommended offsite breathing rates. Breathing rates of  $3.5\text{E-}4 \text{ m}^3/\text{s}$  and  $1.8\text{E-}4 \text{ m}^3/\text{s}$  are applied for the first eight hours and the following 16 hours respectively.
4. This calculation applies the EDE dose conversion factors from Federal Guidance Report 12 [16]. These values are reported in Table 3-1. As described above, some of these DCFs include the DCFs of the isotope's decay products.
5. This calculation considers the impact of a 2-hour sliding EAB window; however, since this release begins immediately and decreases exponentially as the condenser activity decays and is depleted by leakage, the first two hours would be the worst case for the EAB dose and no sliding window calculations are performed.
6. This calculation assesses the LPZ dose for compliance with the acceptance criteria.
7. The dispersion factors for this calculation do not consider depletion of the effluent plume for ground (or any other) deposition.



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Table 3-1 Decay Constants and Dose Conversion Factors

		DOSE CONVERSION FACTORS				DOSE CONVERSION FACTORS	
Isotope	Decay Constant (1/hr)	Whole Body (Rem-m <sup>3</sup> /Ci-s)	Inhalation (Rem/Ci)	Isotope	Decay Constant (1/hr)	Whole Body (Rem-m <sup>3</sup> /Ci-s)	Inhalation (Rem/Ci)
BR-82	1.9642E-02	4.8100E-01	1.5281E+03	XE-129M	3.2524E-03	3.9220E-03	0.0000E+00
BR-83	2.8876E-01	1.4134E-03	8.9170E+01	XE-131M	2.4048E-03	1.4393E-03	0.0000E+00
BR-84	1.3126E+00	3.4817E-01	8.3990E+01	XE-133	5.5064E-03	5.7720E-03	0.0000E+00
KR-83M	3.7260E-01	5.5500E-06	0.0000E+00	XE-133M	1.2564E-02	5.0690E-03	0.0000E+00
KR-85	7.3761E-06	4.4030E-04	0.0000E+00	XE-135	7.6254E-02	4.4030E-02	0.0000E+00
KR-85M	1.5472E-01	2.7676E-02	0.0000E+00	XE-135M	2.6660E+00	7.5480E-02	0.0000E+00
KR-87	5.4507E-01	1.5244E-01	0.0000E+00	XE-137	1.0887E+01	2.1349E-01*	0.0000E+00
KR-88	2.4407E-01	3.7740E-01	0.0000E+00	XE-138	2.9496E+00	2.1349E-01	0.0000E+00
KR-89	1.3068E+01	3.7740E-01*	0.0000E+00	RB-86	1.5478E-03	1.7797E-02	6.6230E+03
I-128	1.6642E+00	1.5335E-02	4.7360E+01	RB-88	2.3365E+00	1.2432E-01	8.3620E+01
I-130	5.6080E-02	3.8480E-01	2.6418E+03	RB-89	2.7361E+00	3.9220E-01	4.2920E+01
I-131	3.5922E-03	6.7340E-02	3.2893E+04	CS-132	4.4639E-03	1.2358E-01	1.2284E+03
I-132	3.0137E-01	4.1440E-01	3.8110E+02	CS-134	3.8347E-05	2.8009E-01	4.6250E+04
I-133	3.3324E-02	1.0878E-01	5.8460E+03	CS-134M	2.3820E-01	3.3485E-03	4.3660E+01
I-134	7.9066E-01	4.8100E-01	1.3135E+02	CS-136	2.2047E-03	3.9220E-01	7.3260E+03
I-135	1.0486E-01	3.0688E-01	1.2284E+03	CS-137	2.6357E-06	1.0083E-01	3.1931E+04
				CS-138	1.2913E+00	4.4770E-01	1.0138E+02

\* The air immersion dose conversion factors for these isotopes are not included in FGR-12. The maximum DCF of all modeled isotopes of this element is conservatively assumed for these isotopes.

## 3.1.2 Section 4.2 of RG 1.183

This calculation applies a control room dose calculation methodology consistent with that described in Section 4.2 of RG 1.183.

1. This calculation considers all potential radiation sources to the control room operators. Intake of the radiation plume from the control room ventilation intake is the only mode of contamination of the control room atmosphere. Although the Turbine Building is located adjacent to the control room, infiltration from this area is neglected since holdup and dilution in the Turbine Building is neglected in the analysis. In addition, if dilution and holdup were considered, the source terms would be considerably diluted by mixing in the large GGNS Turbine Building and, considering the lack of any pressure differential between these areas, leakage into the Control Building through the two doors or sealed penetrations is expected to be less than that predicted by the assumed immediate dispersion to the control room intake. Radiation shine from the plume or external areas is insignificant due to the significant thicknesses of concrete between the control room and the plume or the condenser.
2. The control room dose calculation applies the same source term, transport, and release assumptions as the offsite dose calculation.



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3. The model used to determine the control room dose is based on an analytical solution to the governing equations and provides suitably conservative results as described in Appendix A.
4. This calculation credits only manual actuation of the Control Room Fresh Air Supply System. No reliance is placed on radiation monitors for this isolation.
5. No credit is taken for personal protective equipment or prophylactic drugs.
6. This calculation applies the recommended occupancy factor and breathing rate. An occupancy factor and breathing rate of 1.0 and 3.5E-4 m<sup>3</sup>/s respectively are applied in the control room evaluation. After 24 hours, these values are still conservatively applied in the control room to quantify the radiological impact of any residual activity.
7. The control room calculation applies the same dose conversion factors as the offsite dose calculation. The recommended semi-infinite to finite cloud dose conversion factor is also applied to the EDE calculation as described in Appendix A.

### 3.1.3 Section 4.4 of RG 1.183

This calculation applies the acceptance criteria in Table 6 of RG 1.183 and 10CFR50.67 for the offsite and control room doses respectively. This calculation also applies the 24-hour release duration from Table 6 of RG 1.183.

### 3.1.4 Section 5.3 of RG 1.183

The GGNS dispersion factors have been revised with the latest five years (1995-1999) of hourly site meteorological data. The control room  $\chi/Q$  values were determined for a release from the turbine building vent in Calculation XC-Q1111-98011 [13] with the ARCON96 code. The offsite  $\chi/Q$  values were determined in Calculation XC-Q1C84-92009 [14] with the PAVAN (1992) code. This calculation will apply the following values, which bound the calculated numbers.

**Table 3-2 GGNS Dispersion Factors**

	EAB	LPZ	Turbine Bldg. Vent to Control Bldg Roof
0 to 2 hours	6.0E-04	1.25E-04	8.0E-04
2 to 8 hours		6.0E-05	7.0E-04
8 to 24 hours		4.5E-05	3.0E-04

### 3.1.5 Appendix C of RG 1.183

This calculation applies the acceptable assumptions described in Appendix C of RG 1.183.

1. The number of fuel rods damaged during the accident is based on an NRC-approved fuel vendor methodology and is described in detail in Section 3.2.3.
2. This calculation applies the gap fractions in Section 3 of RG 1.183 (see Table 3-3 below) and assumes the release of 50% of the iodine and 100% of the noble gases for fuel postulated to reach melt conditions. Since the fuel gap can also contain the alkali metals per RG 1.183 Table 1, this calculation will apply a gap fraction of 12% per RG 1.183 Table 3. Since Appendix C of RG 1.183 does not address the melt release fraction for alkali metals for a CRDA, this calculation will assume 25% of the alkali metals are released from the melted fuel consistent

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with RG 1.83 Table 1. Although RG 1.183 Table 1 reports that small fractions of other nuclide groups are also released from the melted fuel, these source terms are neglected in this calculation due to (i) the small amount of fuel exposed to melt conditions (<1%), (ii) the small in-vessel release fractions for these nuclide groups, and (iii) the low volatility of these particulates from both the reactor and condenser.

**Table 3-3 Gap Fractions for High Burnup Fuel**

Group	Gap Release Fraction	Melt Release Fraction
Noble Gases	10%	100%
Halogens	10%	50%
Alkali metals	12%	25%

3. Since significant fuel damage is postulated for this event, the impact of coolant source terms is neglected.
4. The activity released from the fuel from the gap and fuel pellets is assumed to be instantaneously mixed in the reactor coolant within the pressure vessel.
5. No credit is taken for partitioning in the pressure vessel or for removal by the steam separators.
6. Of the activity released from the reactor coolant within the pressure vessel, 100% of the noble gases, 10% of the iodine, and 1% of the remaining radionuclides are assumed to reach the turbine and condensers. The MSIVs are not assumed to close as a result of the accident since the main steamline radiation monitors do not result in an automatic closure of the MSIVs. Per Section 6.3.2.1 of NEDO-31400A [6], iodine carryovers of only 2% would be expected, indicating that the 10% partition assumption is applicable even without the MSIV isolation on high steamline radiation. The NRC, in the SER to NEDO-31400A, has approved this conclusion.
7. Of the activity that reaches the turbine and condenser, 100% of the noble gases, 10% of the iodine, and 1% of the particulate radionuclides are available for release to the environment. The turbine and condensers leak to the atmosphere as a ground-level release at a rate of 1% per day for a period of 24 hours, at which time the leakage is assumed to terminate. This leakage rate is applicable to GGNS since the mechanical vacuum pumps would be automatically tripped by the high steamline radiation signal associated with the postulated fuel damage as well as by any assumed loss of offsite power. Although the mechanical vacuum pump trip and isolation on high steamline radiation is not fully safety-related, the NRC approved credit for this trip for the CRDA in Section 15.3.1 of the original GGNS SER, NUREG-0831 [10]. No credit is taken for dilution or holdup within the Turbine Building. Radioactive decay during holdup in the turbine and condenser is credited.
8. The release from the turbine and condenser is assumed to be 97% elemental and 3% organic.



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Sheet 6 Cont on 7Calculation No. XC-Q1J11-98016Rev. 1Prepared By A.S.B. Date 9/27/00 Checked By MAN Date 10/4/00**3.2 SRP 15.4.9 Compliance***3.2.1 Loss of Offsite Power*

Appendix A of Standard Review Plan 15.4.9 reports that a loss of offsite power (LOP) should be assumed at the time of the accident. A LOP would cause the turbine stop and control valves to close, scram the reactor, and trip the condenser offgas system or mechanical vacuum pumps. Non-LOP scenarios that credit the operation of the offgas system are not limiting due to the significant holdup of both halogens and nobles in the low-temperature GGNS offgas system. This calculation makes the assumption of a coincident LOP.

*3.2.2 Turbine and Condenser Integrity*

Appendix A of Standard Review Plan 15.4.9 reports that the integrity of the turbine and condenser is unaffected by this accident. As described later, this calculation makes this assumption and credits the source term holdup in the condenser and turbines. Since, at low reactor power levels, steam may be directed to the condenser via the turbine bypass system, the integrity of the bypass piping is also assumed to be unaffected by this event.

*3.2.3 Largest Source Term*

Appendix A of Standard Review Plan 15.4.9 reports that the combination of operating mode, rod positions, burnup, etc. should be that which results in the largest source term. This calculation applies a fuel damage estimate that is developed based on the worst-case rod worth possible under the BPWS system, which is required by Technical Specification 3.1.6. In addition, this calculation considered the maximum allowable inoperable rods permitted under Technical Specification 3.1.3.

The GGNS Banked Position Withdrawal Sequence (BPWS) controls rod patterns to minimize the rod worth of any control rod. In Section S.2.2.3.1.4 of GESTAR-II [5], General Electric has determined that the worst-case CRDA would result in no more than 850 rods (including a 10% allowance for uncertainties in the calculation) would reach a fuel enthalpy of 170 cal/gm. As discussed in SRP 15.4.9, fuel rods that exceed a deposited fuel enthalpy of 170 cal/gm are assumed to experience cladding failure. NEDO-31400A applied this value with a bounding rod power level of 0.12 MW for a total power level of 102 MW ( $850 \times 0.12$ ) for the failed rods.

As reported in Section 3.7 of Reference NEDE-31152P [7], the 850 fuel rods were calculated based on an 8x8 fuel design and a value of 1000 rods is applicable to the GE11 9x9 fuel design. Since the GE 8x8 design contains 62 full-length rods<sup>1</sup>, the 850 failed rods represents 13.7 bundles. With an effective 71 full-length fuel rods in the GE11 bundles<sup>2</sup>, 13.7 bundles would be equivalent to 973 rods validating the GE value of 1000 rods.

<sup>1</sup> Although some GE 8x8 designs include 63 fuel rods, this calculation will conservatively assume that the reported 850 failed fuel rods is based on an 8x8 design with 62 fuel rods to maximize the number of failed bundles.

<sup>2</sup> The GE11 bundles contain rods 74 fuel rods, eight of which are part-length rods that are approximately 60% of the length of the full-length rods, for an effective 71 full-length rods per bundle.

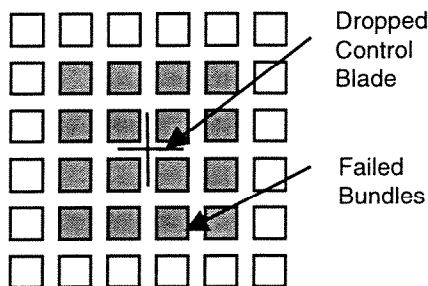


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The source terms applied in this analysis will be conservatively based on the failure of 16 fuel bundles representing the four-bundle cell associated with the dropped control blade and one additional row as illustrated below.



**Figure 3-1 Failed Bundles in a CRDA**

As discussed in Section 6.2.1 of NEDO-31400A, the maximum mass fraction in the damaged fuel that reaches temperatures in excess of the melting point is 0.0077.

### 3.2.4 Source Term Decay

Appendix A of Standard Review Plan 15.4.9 reports that no decay should be credited prior to accident initiation. This calculation makes this assumption.

### 3.2.5 Rod Power Level

SRP 15.4.9 reports that the rods that are calculated to fail are assumed to have operated at a core power level 1.5 times that of the average power level of the core. Although the CRDA results in significant fuel failure only at very low core powers where the reactivity worth of a control blade is maximized, it is possible, in the event of a quick startup after a scram, that the source term inventories in the fuel rods could be comparable to the full-power activities. This SRP power assumption is consistent with the 1.5 minimum radial peaking factor applied in the fuel handling accident required by Reg. Guide 1.25 [8] with a flat local peaking profile. Considering the localized nature of this event, bundle-average source terms are expected to be sufficient for this accident; however, as applied in the fuel handling accident, this calculation will apply a radial peaking factor of 1.7. Core power and power distribution uncertainties are also considered in the calculation of these source terms in Calculation XC-Q1J11-98018 [9]. These inventories based on no decay and are reported below.



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**CALCULATION SHEET**Sheet 8 Cont on 9Calculation No. XC-Q1J11-98016Rev. 1Prepared By J.E.B. Date 9/27/00 Checked By M.H.M. Date 10/4/00**Table 3-4 Bundle Source Terms (no decay)**

Isotope	Bundle Activity (Ci)	Isotope	Bundle Activity (Ci)
BR-82	2.717E+03	RB-86	1.048E+03
BR-83	3.798E+04	RB-88	2.546E+05
BR-84	7.107E+04	RB-89	3.323E+05
I-128	8.534E+03	KR-83M	3.796E+04
I-130	2.002E+04	KR-85	3.102E+03
I-131	2.394E+05	KR-85M	8.844E+04
I-132	3.415E+05	KR-87	1.786E+05
I-133	4.781E+05	KR-88	2.525E+05
I-134	5.369E+05	KR-89	3.207E+05
I-135	4.455E+05	XE-129M	9.566E+00
CS-132	1.140E+02	XE-131M	2.711E+03
CS-134	1.002E+05	XE-133	4.502E+05
CS-134M	2.432E+04	XE-133M	1.490E+04
CS-136	2.653E+04	XE-135	1.573E+05
CS-137	3.544E+04	XE-135M	9.684E+04
CS-138	4.718E+05	XE-137	4.213E+05
		XE-138	4.380E+05

**3.3 Turbine and Condenser Volumes**

It is recognized that this calculation is not sensitive to the volume of the condenser or turbine since the leak rate is expressed in terms of a percent per day. A larger volume would result in a larger leak rate (in cfm) of a more diluted source term, while a smaller volume would result in a smaller leak rate of a more concentrated source term. However, a general estimate of the condenser and turbine volumes is developed.

The condenser airborne volume is taken from Reference 21, which reports a total condenser volume of 241,174 ft<sup>3</sup> and a condensate volume of 13,815 ft<sup>3</sup> for an airborne volume of 227,359 ft<sup>3</sup>. The volume of the turbine is estimated from Drawings M-0004 [22] and M-0007 [23] which indicate that each low pressure turbine casing is approximately 40 feet in diameter and 30 feet long for a total volume of 113,100 ft<sup>3</sup>. If half this volume is assumed to be filled by the turbine rotor, an air volume of 56,550 ft<sup>3</sup> can be calculated. This value is nearly identical to the value of 56,283 ft<sup>3</sup> that Bechtel applied in the original CRDA dose calculation [24]. Therefore, the volume of the condenser and turbine that would be available for airborne source terms is estimated to be 283,909 ft<sup>3</sup>.

In the event steam is being directed to the condenser via the bypass system when the CRDA occurs, the volume of the turbine would still be available for source terms migration and leakage since the turbine sits directly above the condenser.



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**CALCULATION SHEET**Sheet 9 Cont on 10Calculation No. XC-Q1J11-98016Rev. 1Prepared By B.S.B. Date 9/27/00 Checked By MAM Date 10/4/22**4.0 ASSUMPTIONS****4.1 Bromine Modeling**

As halogens, the bromine isotopes are modeled identical to the iodine isotopes.

**4.2 Control Room Isolation and Inleakage**

As described in Section 9.4.1.2 of the GGNS SAR, the GGNS control room is normally maintained at a slightly positive pressure to the surrounding areas from the 2000 cfm fresh air makeup. In addition to this 2000-cfm intake flow [27], 10 cfm will be assumed due to opening doors consistent with the guidance in Regulatory Guide 1.78 for a total inleakage rate of 2010 cfm.

In the isolated mode, there is no intake from outside air sources and the control room pressure would eventually reach that of the surrounding areas. Although the current design of the GGNS control room HVAC system would automatically isolate the outside air intakes on high radiation in the intakes and start the control room fresh air supply system in recirculation mode, these automatic actions are not credited in this calculation. Instead, considering the high radiation indications expected in the turbine building, the control room is assumed to be manually isolated after 20 minutes consistent with ANSI/ANS-58.8-1984 [28], which was endorsed by the NRC in draft Regulatory Guide DG-1052 [29]. Although the GGNS Operating License Condition #38 [19] reports a maximum allowable control room inleakage of 590 cfm, a value of 2000 cfm will be applied in this analysis in addition to 10 cfm from ingress and egress.

The control room is assumed to be isolated for the remainder of the analysis period (per Section 3.2.12) since fresh air is not required for at least 72 hours per SAR Section 9.4.1.5. A control room volume of  $2.53\text{E}5 \text{ ft}^3$  is applied in this analysis per Calculation MC-QSZ51-91152 [26]. Upon isolation at 20 minutes, the Control Room Fresh Air Supply system is started in the recirculation mode passing 4000 cfm of control room atmosphere through the HEPA filters before returning it to the control room envelope. No credit is taken for the charcoal beds in the Control Room Fresh Air Supply system.



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## 5.0 CALCULATIONS

### 5.1 Release Fractions

As discussed in Section 3.1.5, various percentages of the noble gases, halogens, and alkali metals are assumed to be released as a result of the gap failure. As discussed in Section 3.2.3, 0.77% of the fuel mass in the failed bundles reach melt conditions. The total release fractions from the 16 affected bundles are calculated below.

Halogens: Release Fraction =  $(1-0.0077)*10\% + 0.0077*50\% = 10.308\%$   
 Nobles: Release Fraction =  $(1-0.0077)*10\% + 0.0077*100\% = 10.693\%$   
 Alkali Metals: Release Fraction =  $(1-0.0077)*12\% + 0.0077*25\% = 12.1\%$

Based on the release fractions calculated above and the plateout assumptions reported in Section 3.1.5, the activity available for release from the condenser is tabulated below.

**Table 5-1 Activity Available for Release**

Isotope	Bundle Activity (Ci)	Activity in 16 Bundles (Ci)	Release Fraction from Fuel	Release Fraction to Condenser	Fraction Available for Release	Activity Available for Release from Condenser (Ci)
BR-82	2.717E+03	4.347E+04	10.308%	10%	10%	4.481E+01
BR-83	3.798E+04	6.077E+05	10.308%	10%	10%	6.264E+02
BR-84	7.107E+04	1.137E+06	10.308%	10%	10%	1.172E+03
KR-83M	3.796E+04	6.074E+05	10.693%	100%	100%	6.495E+04
KR-85	3.102E+03	4.963E+04	10.693%	100%	100%	5.307E+03
KR-85M	8.844E+04	1.415E+06	10.693%	100%	100%	1.513E+05
KR-87	1.786E+05	2.858E+06	10.693%	100%	100%	3.056E+05
KR-88	2.525E+05	4.040E+06	10.693%	100%	100%	4.320E+05
KR-89	3.207E+05	5.131E+06	10.693%	100%	100%	5.487E+05
I-128	8.534E+03	1.365E+05	10.308%	10%	10%	1.407E+02
I-130	2.002E+04	3.203E+05	10.308%	10%	10%	3.302E+02
I-131	2.394E+05	3.830E+06	10.308%	10%	10%	3.948E+03
I-132	3.415E+05	5.464E+06	10.308%	10%	10%	5.632E+03
I-133	4.781E+05	7.650E+06	10.308%	10%	10%	7.885E+03
I-134	5.369E+05	8.590E+06	10.308%	10%	10%	8.855E+03
I-135	4.455E+05	7.128E+06	10.308%	10%	10%	7.348E+03
XE-129M	9.566E+00	1.531E+02	10.693%	100%	100%	1.637E+01
XE-131M	2.711E+03	4.338E+04	10.693%	100%	100%	4.638E+03
XE-133	4.502E+05	7.203E+06	10.693%	100%	100%	7.702E+05
XE-133M	1.490E+04	2.384E+05	10.693%	100%	100%	2.549E+04
XE-135	1.573E+05	2.517E+06	10.693%	100%	100%	2.691E+05
XE-135M	9.684E+04	1.549E+06	10.693%	100%	100%	1.657E+05
XE-137	4.213E+05	6.741E+06	10.693%	100%	100%	7.208E+05
XE-138	4.380E+05	7.008E+06	10.693%	100%	100%	7.494E+05
RB-86	1.048E+03	1.677E+04	12.100%	1%	1%	2.029E-01
RB-88	2.546E+05	4.074E+06	12.100%	1%	1%	4.929E+01
RB-89	3.323E+05	5.317E+06	12.100%	1%	1%	6.433E+01
CS-132	1.140E+02	1.824E+03	12.100%	1%	1%	2.207E-02
CS-134	1.002E+05	1.603E+06	12.100%	1%	1%	1.940E+01
CS-134M	2.432E+04	3.891E+05	12.100%	1%	1%	4.708E+00
CS-136	2.653E+04	4.245E+05	12.100%	1%	1%	5.136E+00
CS-137	3.544E+04	5.670E+05	12.100%	1%	1%	6.861E+00
CS-138	4.718E+05	7.549E+06	12.100%	1%	1%	9.134E+01



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# CALCULATION SHEET

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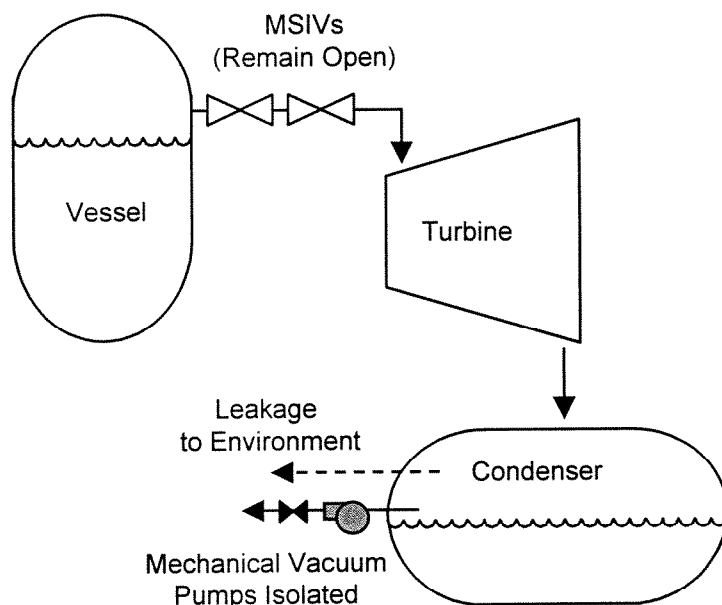
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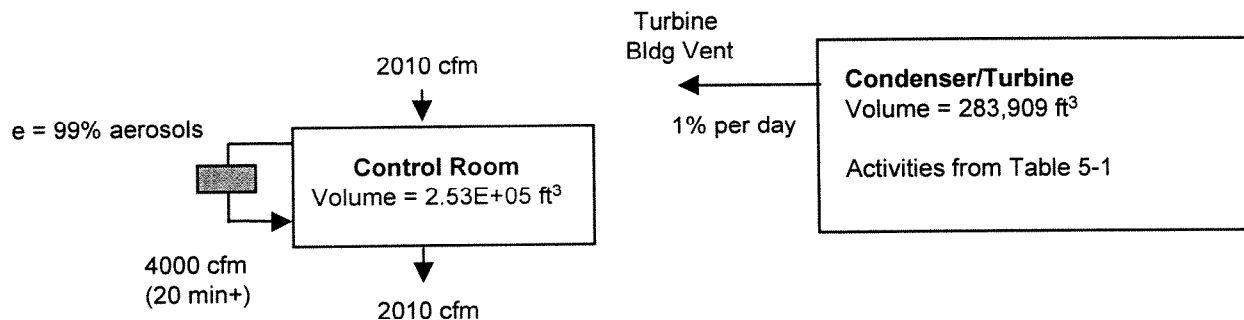
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## 5.2 Model

The *analytical* model consists of two volumes, the condenser, from which the release occurs, and the control room. Control room isolation is assumed to occur at 20 minutes since the automatic isolation on high radiation in the intake duct is not credited. *This isolation terminates the 2010 cfm of outside air entering the control room envelope at which time an inleakage rate of 2010 cfm begins in the isolated configuration.* Although the release is terminated at 24 hours, the *analytical* model is conservatively evaluated for 3 days to consider the radiological impact of any *residual* source terms in the control room at 24 hours. The release pathway is illustrated in Figure 5-1 while the associated *analytical* model is illustrated in Figure 5-2.



**Figure 5-1 Control Rod Drop Accident Release Pathway**



**Figure 5-2 Control Rod Drop Accident Model**



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**CALCULATION SHEET**Sheet 12 Cont on 13Calculation No. XC-Q1J11-98016Rev. 1Prepared By J.S.B. Date 9/27/00 Checked By MAM Date 10/4/00**5.3 Calculational Methodology**

As a scenario that does not involve activity recycling, the associated dose equations can be solved analytically and an exact solution can be generated. The governing equations are solved in Appendix A. As an analytical solution, this technique avoids the timestep problems reported for the TRANSACT control room calculation in CR-GGN-2000-0737.



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**CALCULATION SHEET**Sheet 13 Cont on 14Calculation No. XC-Q1J11-98016Rev. 1Prepared By D.S.P. Date 9/27/90 Checked By JMAM Date 10/4/00**6.0 RESULTS**

The results of the CRDA analysis are reported in Attachment 1. A benchmark using the RADTRAD code is reported in Attachment 2. This benchmark used revised RADTRAD nuclide inventory and release fraction files to include only the source terms available for release reported in Table 5-1. The isotopes in Table 5-1 that are not part of the RADTRAD default files (e.g., bromines, Kr-83m, etc.) were not added to the RADTRAD benchmark resulting in the slightly lower RADTRAD results. A separate (undocumented) GGNS code called RAPTOR was also applied to confirm these results and this output is included in Attachment 3<sup>3</sup>. The following table summarizes these results.

**Table 6-1 CRDA Dose Results**

Location	Dose (Rem TEDE)			TEDE Acceptance Criteria (Rem)
	ANALYTICAL SOLUTION	RADTRAD BENCHMARK	RAPTOR BENCHMARK	
EAB	1.467E-01	1.243E-01	1.427E-01	6.3
LPZ	6.396E-02	5.903E-02	6.310E-02	6.3
Control Room	2.615E-01	2.588E-01	2.604E-01	5

The offsite results are well below the acceptance criteria of 6.3 rem TEDE. In addition, the control room dose is well within the 5 rem limit. As such, it is concluded that a control rod drop accident when modeled with the NUREG-1465 revised source terms would satisfy the NRC's acceptance criteria.

<sup>3</sup> Since RADTRAD and RAPTOR are being used solely as benchmarks in this calculation, Computer Program Documentation Packages on these codes are not necessary to support this application.



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# CALCULATION SHEET

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Rev. 1

Prepared By J.E.B. Date 9/27/00 Checked By MAM Date 10/4/00

## 7.0 REFERENCES

1. NUREG-1465, Accident Source Terms for Light-Water Nuclear Power Plants, dated February 1995.
2. Calculation XC-Q1J11-94003, Rev. 2, Bounding Dose Consequences of a Control Rod Drop Accident.
3. NUREG-0800, Standard Review Plan, Section 15.4.9, Rev. 2, Spectrum of Rod Drop Accidents, dated July 1981.
4. Regulatory Guide 1.77, Assumptions Used for Evaluating a Control Rod Ejection Accident for Pressurized Water Reactors, dated May 1974.
5. NEDE-24011-P-A-10-US, GESTAR-II, General Electric Standard Application for Reactor Fuel (Supplement for United States), Rev. 13.
6. NEDO-31400A, Safety Evaluation for Eliminating the Boiling Water Reactor Main Steam Isolation Valve Closure Function and Scram Function of the Main Steam Line Radiation Monitor, dated October 1992.
7. NEDE-31152P, Rev. 6, General Electric Fuel Bundle Designs.
8. Regulatory Guide 1.25, Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors, March 23, 1972.
9. Calculation XC-Q1J11-98018, Rev. 2, Fuel Handling Accident Revised Source Terms.
10. NUREG-0831, Safety Evaluation Report related to the Operation of Grand Gulf Nuclear Station, Units 1 and 2, September 1981.
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13. Calculation XC-Q1111-98011, Rev. 1, Control Room  $\gamma$ /Q Analysis.
14. Calculation XC-Q1C84-92009, Rev. 2, Short-term (Accident) Diffusion  $\gamma$ /Q.
15. Federal Guidance Report 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion, Second Printing 1989.
16. Federal Guidance Report 12, External Exposure to Radionuclides in Air, Water, and Soil, 1993.
17. NUREG/CR-6604, RADTRAD: A Simplified Model for RADionuclide Transport And Removal And Dose Estimation, dated April 1998.
18. Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors", dated July 2000.
19. GGNS Technical Specifications, Amendment 136.
20. Regulatory Guide 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release", dated June 1974.
21. Bechtel Calculation 6.2.13, Rev. A, Condenser.
22. General Arrangement Drawing M-0004, Rev. 7.
23. General Arrangement Drawing M-0007, Rev 7.
24. Bechtel Calculation 5.3.32-N, Rev. 1, Control Rod Drop.
25. Deleted.
26. Calculation MC-QSZ51-91152, Rev. 0, Control Room Airtight Boundary Free Volume.
27. Simplified Flow Diagram 0049, Rev. 7, Control Room HVAC System.



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## CALCULATION SHEET

Sheet 15 Cont on 9/1

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Prepared By J.E.B. Date 9/27/00 Checked By M.A.M. Date 10/4/00

28. ANSI/ANS-58.8-1984, Time Response Design Criteria for Nuclear Safety Related Operator Actions, dated September 14, 1984.
29. Draft Regulatory Guide DG-1052, Rev. 1, "Time Response Design Criteria for Safety-Related Operator Actions", dated November 1996.

## APPENDIX A: DIFFERENTIAL SOLUTION CALCULATION

Based on the model presented in Section 5.2, the activity concentration of isotope  $i$  at an offsite location,  $C_{offsite}^i(t)$ , can be calculated as:

$$C_{offsite}^i(t) = A_{cond}^i(t) \cdot f_\ell \cdot \frac{\chi_{offsite}}{Q} \quad (A-1)$$

where:

$$\begin{aligned} A_{cond}^i(t) &= \text{activity of isotope } i \text{ available for release in the condenser at time } t \\ f_\ell &= \text{condenser leak rate (1\% per day),} \\ \frac{\chi_{offsite}}{Q} &= \text{dispersion coefficient from turbine building to the offsite location.} \end{aligned}$$

If the activity reduction from leakage is conservatively neglected and the production of daughter products is ignored in the condenser, the transient activity in the condenser is simply:

$$A_{cond}^i(t) = A_{cond}^i(t=0) \cdot e^{-\lambda^i \cdot t} \quad (A-2)$$

where:

$$\begin{aligned} A_{cond}^i(t=0) &= \text{initial activity of isotope } i \text{ in condenser} \\ t &= \text{time after accident} \\ \lambda^i &= \text{decay constant for isotope } i \end{aligned}$$

Combining the previous two equations, the activity concentration of isotope  $i$  at an offsite location can be calculated as:

$$C_{offsite}^i(t) = A_{cond}^i(t=0) \cdot e^{-\lambda^i \cdot t} \cdot f_\ell \cdot \frac{\chi_{offsite}}{Q} \quad (A-3)$$

The inhalation or thyroid dose associated with this transient concentration is:

$$\begin{aligned} Inhaled \text{ Dose}_{offsite}^i &= \int_{t_1}^{t_2} C_{offsite}^i(t) \cdot BR \cdot DCF^i \cdot dt \\ &= \int_{t_1}^{t_2} A_{cond}^i(t=0) \cdot e^{-\lambda^i \cdot t} \cdot f_\ell \cdot \frac{\chi_{offsite}}{Q} \cdot BR \cdot DCF^i \cdot dt \\ &= \frac{A_{cond}^i(t=0) \cdot f_\ell \cdot \frac{\chi_{offsite}}{Q} \cdot BR \cdot DCF^i}{\lambda^i} (e^{-\lambda^i \cdot t_1} - e^{-\lambda^i \cdot t_2}) \end{aligned} \quad (A-4)$$

where<sup>4</sup>:

$$\begin{aligned} BR &= \text{breathing rate} \\ DCF^i &= \text{dose conversion factor for isotope } i \end{aligned}$$

<sup>4</sup> Breathing rate, leak rate, and  $\chi/Q$  are constant between times  $t_1$  and  $t_2$ .

The whole body dose can also be calculated similarly.

$$WB\ Dose_{offsite}^i = \frac{A_{cond}^i(t=0) \cdot f_{\ell} \cdot \frac{\chi_{offsite}}{Q} \cdot DCF^i}{\lambda^i} \cdot (e^{-\lambda^i \cdot t_1} - e^{-\lambda^i \cdot t_2}) \quad (A-5)$$

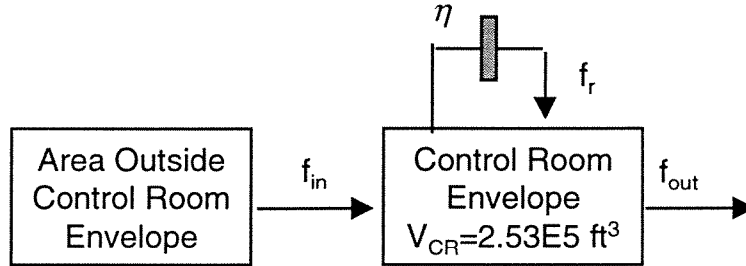
For the control room, the activity concentration of isotope i at the control room intake,  $C_{out}^i(t)$ , can be calculated similar to the offsite concentration as:

$$C_{out}^i(t) = A_{cond}^i(t=0) \cdot e^{-\lambda^i \cdot t} \cdot f_{\ell} \cdot \frac{\chi_{CR}}{Q} \quad (A-6)$$

where:

$$\frac{\chi_{CR}}{Q} = \text{dispersion coefficient from turbine building to control room intake.}$$

The control room is modeled as a homogeneously mixed volume with an inflow and an equivalent outflow with a filtered recirculation flow. The transient activity concentration inside the control room can then be calculated relative to the activity concentration outside the control room envelope. This model is illustrated below.



**Figure A-1 Control Room Model**

An activity balance for the control room concentration can then be developed for each isotope.

$$\frac{d}{dt} C_{CR}^i(t) = \frac{C_{out}^i(t) \cdot f_{in}}{V_{CR}} - \frac{C_{CR}^i(t) \cdot f_{out}}{V_{CR}} - \frac{C_{CR}^i(t) \cdot f_r \cdot \eta}{V_{CR}} - \lambda^i \cdot C_{CR}^i(t) \quad (A-7)$$

where:

- $C_{CR}^i(t)$  = transient activity concentration in the control room
- $C_{out}^i(t)$  = activity concentration outside the control room envelope
- $f_{in}$  = leakage rate into the control room
- $V_{CR}$  = volume of the control room
- $f_{out}$  = leakage rate out of the control room
- $f_r$  = recirculation flow rate
- $\eta$  = efficiency of the control room recirculation filters (isotope and species dependent)

Assuming the area outside the control room envelope is so large that the concentration is unchanged with the inleakage, the control room activity concentration can be written as:

$$\begin{aligned}
 \frac{d}{dt} C_{CR}^i(t) &= \frac{A_{cond}^i(t=0) \cdot e^{-\lambda^i \cdot t} \cdot f_t \cdot \frac{\chi_{CR}}{Q} \cdot f_{in}}{V_{CR}} - \frac{C_{CR}^i(t) \cdot f_{out}}{V_{CR}} - \frac{C_{CR}^i(t) \cdot f_r \cdot \eta}{V_{CR}} - \lambda^i \cdot C_{CR}^i(t) \\
 \frac{d}{dt} C_{CR}^i(t) + \left( \frac{f_{out}}{V_{CR}} + \frac{f_r \cdot \eta}{V_{CR}} + \lambda^i \right) \cdot C_{CR}^i(t) &= \frac{A_{cond}^i(t=0) \cdot f_t \cdot \frac{\chi_{CR}}{Q} \cdot f_{in}}{V_{CR}} \cdot e^{-\lambda^i \cdot t} \\
 \frac{d}{dt} C_{CR}^i(t) + \alpha \cdot C_{CR}^i(t) &= \beta \cdot e^{-\lambda^i \cdot t} \\
 \int_{t_1}^{t_2} d[C_{CR}^i(t) \cdot e^{\alpha \cdot t}] &= \int_{t_1}^{t_2} \beta \cdot e^{(\alpha - \lambda^i)t} dt \\
 C_{CR}^i(t) \cdot e^{\alpha \cdot t_2} - C_{CR}^i(t=t_1) \cdot e^{\alpha \cdot t_1} &= \frac{\beta}{(\alpha - \lambda^i)} \cdot [e^{(\alpha - \lambda^i)t_2} - e^{(\alpha - \lambda^i)t_1}] \\
 C_{CR}^i(t) &= \left\{ \frac{\beta}{\alpha - \lambda^i} [e^{(\alpha - \lambda^i)t_2} - e^{(\alpha - \lambda^i)t_1}] + C_{CR}^i(t=t_1) \cdot e^{\alpha \cdot t_1} \right\} \cdot e^{-\alpha \cdot t_2} \\
 C_{CR}^i(t) &= \frac{\beta}{\alpha - \lambda^i} e^{-\lambda^i \cdot t_2} + \left\{ C_{CR}^i(t=t_1) \cdot e^{\alpha \cdot t_1} - \frac{\beta}{\alpha - \lambda^i} \cdot e^{(\alpha - \lambda^i)t_1} \right\} \cdot e^{-\alpha \cdot t_2} \\
 C_{CR}^i(t) &= \frac{\beta}{\alpha - \lambda^i} e^{-\lambda^i \cdot t_2} + \gamma \cdot e^{-\alpha \cdot t_2}
 \end{aligned} \tag{A-8}$$

where:

$$\begin{aligned}
 \alpha &= \left( \frac{f_{out}}{V_{CR}} + \frac{f_r \cdot \eta}{V_{CR}} + \lambda^i \right) \\
 \beta &= \frac{A_{cond}^i(t=0) \cdot f_t \cdot \frac{\chi_{CR}}{Q} \cdot f_{in}}{V_{CR}} \\
 \gamma &= C_{CR}^i(t=t_1) \cdot e^{\alpha \cdot t_1} - \frac{\beta}{\alpha - \lambda^i} \cdot e^{(\alpha - \lambda^i)t_1}
 \end{aligned}$$

Similar to the offsite evaluation, the dose can be calculated from the integrated exposure. The inhalation or thyroid dose associated with this transient concentration is:

$$\begin{aligned}
 Inhaled \ Dose_{CR}^i &= \int_{t_1}^{t_2} C_{CR}^i(t) \cdot BR \cdot DCF^i dt \\
 &= \int_{t_1}^{t_2} \left( \frac{\beta}{\alpha - \lambda^i} e^{-\lambda^i \cdot t} + \gamma \cdot e^{-\alpha \cdot t} \right) \cdot BR \cdot DCF^i \cdot dt \\
 &= BR \cdot DCF^i \cdot \left( \int_{t_1}^{t_2} \frac{\beta}{\alpha - \lambda^i} e^{-\lambda^i \cdot t} \cdot dt + \int_{t_1}^{t_2} \gamma \cdot e^{-\alpha \cdot t} \cdot dt \right)
 \end{aligned}$$

$$= BR \cdot DCF^i \cdot \left\{ \frac{\beta}{\alpha - \lambda^i} \cdot \frac{1}{\lambda^i} \cdot (e^{-\lambda^i \cdot t_1} - e^{-\lambda^i \cdot t_2}) + \frac{\gamma}{\alpha} \cdot (e^{-\alpha \cdot t_1} - e^{-\alpha \cdot t_2}) \right\} \quad (A-9)$$

where<sup>5</sup>:

BR = breathing rate

DCF<sup>i</sup> = dose conversion factor for isotope i

The whole body dose can also be calculated similarly.

$$WB Dose_{CR}^i = \frac{DCF^i}{MCGF} \cdot \left\{ \frac{\beta}{\alpha - \lambda^i} \cdot \frac{1}{\lambda^i} \cdot (e^{-\lambda^i \cdot t_1} - e^{-\lambda^i \cdot t_2}) + \frac{\gamma}{\alpha} \cdot (e^{-\alpha \cdot t_1} - e^{-\alpha \cdot t_2}) \right\} \quad (A-10)$$

where:

DCF is the air immersion dose conversion coefficient (Rem-m<sup>3</sup>/Ci-s),

MCGF is the Murphy-Campe Geometry Factor =  $1173/V_{CR}^{0.338} = 17.5$ .

When the release ends after 24 hours, the leakage rate can be set to zero and the dose associated with the residual activity in the control room can be calculated with a timestep from 24 hours to 3 days (or an appropriate extended period).

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<sup>5</sup> Occupancy factor is taken to be 1.0 throughout the evaluation period. Breathing rate, leak rate, and  $\chi/Q$  are constant between times  $t_1$  and  $t_2$ .

	Source (Ci/bundle)	Fraction Released from Fuel	Release Fraction to Condenser	Fraction Available for Release	Activity Available for Release from Condenser (Ci)	Decay Constant (1/hr)	CR Filter Efficiency	Whole Body DCF (Rem- m <sup>3</sup> /Ci-s)	Inhalation DCF (Rem/Ci)
BR-82	2.717E+03	10.308%	10%	10%	4.481E+01	1.96E-02	0.00%	4.8100E-01	1.5281E+03
BR-83	3.798E+04	10.308%	10%	10%	6.264E+02	2.89E-01	0.00%	1.4134E-03	8.9170E+01
BR-84	7.107E+04	10.308%	10%	10%	1.172E+03	1.31E+00	0.00%	3.4817E-01	8.3990E+01
KR-83M	3.796E+04	10.693%	100%	100%	6.495E+04	3.73E-01	0.00%	5.5500E-06	0.0000E+00
KR-85	3.102E+03	10.693%	100%	100%	5.307E+03	7.38E-06	0.00%	4.4030E-04	0.0000E+00
KR-85M	8.844E+04	10.693%	100%	100%	1.513E+05	1.55E-01	0.00%	2.7676E-02	0.0000E+00
KR-87	1.786E+05	10.693%	100%	100%	3.056E+05	5.45E-01	0.00%	1.5244E-01	0.0000E+00
KR-88	2.525E+05	10.693%	100%	100%	4.320E+05	2.44E-01	0.00%	3.7740E-01	0.0000E+00
KR-89	3.207E+05	10.693%	100%	100%	5.487E+05	1.31E+01	0.00%	3.7740E-01	0.0000E+00
I-128	8.534E+03	10.308%	10%	10%	1.407E+02	1.66E+00	0.00%	1.5335E-02	4.7360E+01
I-130	2.002E+04	10.308%	10%	10%	3.302E+02	5.61E-02	0.00%	3.8480E-01	2.6418E+03
I-131	2.394E+05	10.308%	10%	10%	3.948E+03	3.59E-03	0.00%	6.7340E-02	3.2893E+04
I-132	3.415E+05	10.308%	10%	10%	5.632E+03	3.01E-01	0.00%	4.1440E-01	3.8110E+02
I-133	4.781E+05	10.308%	10%	10%	7.885E+03	3.33E-02	0.00%	1.0878E-01	5.8460E+03
I-134	5.369E+05	10.308%	10%	10%	8.855E+03	7.91E-01	0.00%	4.8100E-01	1.3135E+02
I-135	4.455E+05	10.308%	10%	10%	7.348E+03	1.05E-01	0.00%	3.0688E-01	1.2284E+03
XE-129M	9.566E+00	10.693%	100%	100%	1.637E+01	3.25E-03	0.00%	3.9220E-03	0.0000E+00
XE-131M	2.711E+03	10.693%	100%	100%	4.638E+03	2.40E-03	0.00%	1.4393E-03	0.0000E+00
XE-133	4.502E+05	10.693%	100%	100%	7.702E+05	5.51E-03	0.00%	5.7720E-03	0.0000E+00
XE-133M	1.490E+04	10.693%	100%	100%	2.549E+04	1.26E-02	0.00%	5.0690E-03	0.0000E+00
XE-135	1.573E+05	10.693%	100%	100%	2.691E+05	7.63E-02	0.00%	4.4030E-02	0.0000E+00
XE-135M	9.684E+04	10.693%	100%	100%	1.657E+05	2.67E+00	0.00%	7.5480E-02	0.0000E+00
XE-137	4.213E+05	10.693%	100%	100%	7.208E+05	1.09E+01	0.00%	2.1349E-01	0.0000E+00
XE-138	4.380E+05	10.693%	100%	100%	7.494E+05	2.95E+00	0.00%	2.1349E-01	0.0000E+00
RB-86	1.048E+03	12.100%	1%	1%	2.029E-01	1.55E-03	99.00%	1.7797E-02	6.6230E+03
RB-88	2.546E+05	12.100%	1%	1%	4.929E+01	2.34E+00	99.00%	1.2432E-01	8.3620E+01
RB-89	3.323E+05	12.100%	1%	1%	6.433E+01	2.74E+00	99.00%	3.9220E-01	4.2920E+01
CS-132	1.140E+02	12.100%	1%	1%	2.207E-02	4.46E-03	99.00%	1.2358E-01	1.2284E+03
CS-134	1.002E+05	12.100%	1%	1%	1.940E+01	3.83E-05	99.00%	2.8009E-01	4.6250E+04
CS-134M	2.432E+04	12.100%	1%	1%	4.708E+00	2.38E-01	99.00%	3.3485E-03	4.3660E+01
CS-136	2.653E+04	12.100%	1%	1%	5.136E+00	2.20E-03	99.00%	3.9220E-01	7.3260E+03
CS-137	3.544E+04	12.100%	1%	1%	6.861E+00	2.64E-06	99.00%	1.0083E-01	3.1931E+04
CS-138	4.718E+05	12.100%	1%	1%	9.134E+01	1.29E+00	99.00%	4.4770E-01	1.0138E+02

			EAB Dose (Rem TEDE)	LPZ Dose (Rem TEDE)	Initial CR Conc (Ci/m <sup>3</sup> )	$\alpha$	$\beta$	$\gamma$	Final CR Conc (Ci/m <sup>3</sup> )	CR Dose (Rem TEDE)
Start Time (s)	0	BR-82	3.781E-06	7.877E-07	0.00E+00	1.38E-04	5.49E-13	-4.15E-09	6.06E-10	2.102E-07
End Time (s)	1200	BR-83	1.624E-06	3.382E-07	0.00E+00	2.13E-04	7.68E-12	-5.80E-08	7.74E-09	1.541E-07
Release Rate (1/s)	1.1574E-07	BR-84	2.987E-05	6.223E-06	0.00E+00	4.97E-04	1.44E-11	-1.09E-07	1.03E-08	3.643E-07
EAB X/Q (s/m <sup>3</sup> )	6.00E-04	KR-83M	2.825E-08	5.885E-09	0.00E+00	2.36E-04	7.96E-10	-6.01E-06	7.80E-07	1.590E-10
LPZ X/Q (s/m <sup>3</sup> )	1.25E-04	KR-85	1.947E-07	4.057E-08	0.00E+00	1.32E-04	6.51E-11	-4.91E-07	7.22E-08	1.119E-09
Offsite Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-85M	3.401E-04	7.086E-05	0.00E+00	1.75E-04	1.86E-09	-1.40E-05	1.95E-06	1.938E-06
CR Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-87	3.549E-03	7.395E-04	0.00E+00	2.84E-04	3.75E-09	-2.83E-05	3.47E-06	1.979E-05
CR Volume (m <sup>3</sup> )	7.16E+03	KR-88	1.305E-02	2.718E-03	0.00E+00	2.00E-04	5.30E-09	-4.00E-05	5.42E-06	7.397E-05
CR X/Q (s/m <sup>3</sup> )	8.00E-04	KR-89	3.911E-03	8.147E-04	0.00E+00	3.76E-03	6.73E-09	-5.08E-05	9.58E-08	9.937E-06
CR Recirc Flow (m <sup>3</sup> /s)	0	I-128	2.873E-07	5.985E-08	0.00E+00	5.95E-04	1.73E-12	-1.30E-08	1.10E-09	1.438E-08
CR Flow In (m <sup>3</sup> /s)	9.4861E-01	I-130	3.569E-05	7.436E-06	0.00E+00	1.48E-04	4.05E-12	-3.06E-08	4.41E-09	2.586E-06
CR Flow Out (m <sup>3</sup> /s)	9.4861E-01	I-131	3.808E-03	7.933E-04	0.00E+00	1.33E-04	4.84E-11	-3.66E-07	5.36E-08	3.806E-04
		I-132	2.446E-04	5.096E-05	0.00E+00	2.16E-04	6.91E-11	-5.22E-07	6.93E-08	6.936E-06
		I-133	1.408E-03	2.934E-04	0.00E+00	1.42E-04	9.67E-11	-7.30E-07	1.06E-07	1.346E-04
		I-134	3.418E-04	7.122E-05	0.00E+00	3.52E-04	1.09E-10	-8.20E-07	9.25E-08	4.586E-06
		I-135	4.434E-04	9.237E-05	0.00E+00	1.62E-04	9.01E-11	-6.80E-07	9.65E-08	2.692E-05
		XE-129M	5.346E-09	1.114E-09	0.00E+00	1.33E-04	2.01E-13	-1.52E-09	2.22E-10	3.071E-11
		XE-131M	5.561E-07	1.159E-07	0.00E+00	1.33E-04	5.69E-11	-4.29E-07	6.30E-08	3.194E-09
		XE-133	3.701E-04	7.711E-05	0.00E+00	1.34E-04	9.44E-09	-7.13E-05	1.05E-05	2.126E-06
		XE-133M	1.075E-05	2.239E-06	0.00E+00	1.36E-04	3.13E-10	-2.36E-06	3.45E-07	6.169E-08
		XE-135	9.750E-04	2.031E-04	0.00E+00	1.54E-04	3.30E-09	-2.49E-05	3.57E-06	5.578E-06
		XE-135M	6.905E-04	1.439E-04	0.00E+00	8.73E-04	2.03E-09	-1.53E-05	9.27E-07	3.401E-06
		XE-137	3.440E-03	7.166E-04	0.00E+00	3.16E-03	8.84E-09	-6.67E-05	2.60E-07	9.988E-06
		XE-138	8.487E-03	1.768E-03	0.00E+00	9.52E-04	9.19E-09	-6.94E-05	3.81E-06	4.108E-05
		RB-86	3.948E-08	8.226E-09	0.00E+00	1.33E-04	2.49E-15	-1.88E-11	2.76E-12	3.941E-09
		RB-88	4.383E-07	9.131E-08	0.00E+00	7.81E-04	6.04E-13	-4.56E-09	3.08E-10	9.126E-09
		RB-89	1.432E-06	2.984E-07	0.00E+00	8.92E-04	7.89E-13	-5.96E-09	3.52E-10	1.130E-08
		CS-132	1.017E-09	2.119E-10	0.00E+00	1.34E-04	2.71E-16	-2.04E-12	3.00E-13	8.072E-11
		CS-134	2.662E-05	5.546E-06	0.00E+00	1.32E-04	2.38E-13	-1.80E-09	2.64E-10	2.633E-06
		CS-134M	7.027E-09	1.464E-09	0.00E+00	1.99E-04	5.77E-14	-4.36E-10	5.92E-11	5.792E-10
		CS-136	1.265E-06	2.635E-07	0.00E+00	1.33E-04	6.30E-14	-4.76E-10	6.98E-11	1.112E-07
		CS-137	6.448E-06	1.343E-06	0.00E+00	1.32E-04	8.41E-14	-6.35E-10	9.33E-11	6.427E-07
		CS-138	2.989E-06	6.226E-07	0.00E+00	4.91E-04	1.12E-12	-8.46E-09	8.08E-10	3.533E-08
			4.118E-02	8.579E-03						7.283E-04

		Isotope	EAB Dose (Rem TEDE)	LPZ Dose (Rem TEDE)	Initial CR Conc (Ci/m <sup>3</sup> )	$\alpha$	$\beta$	$\gamma$	Final CR Conc (Ci/m <sup>3</sup> )	CR Dose (Rem TEDE)
Start Time (s)	1200	BR-82	1.854E-05	3.862E-06	6.06E-10	1.38E-04	5.49E-13	-4.15E-09	2.45E-09	5.61E-06
End Time (s)	7200	BR-83	6.138E-06	1.279E-06	7.74E-09	2.13E-04	7.68E-12	-5.80E-08	2.00E-08	3.08E-06
Release Rate (1/s)	1.1574E-07	BR-84	4.832E-05	1.007E-05	1.03E-08	4.97E-04	1.44E-11	-1.09E-07	4.83E-09	2.78E-06
EAB X/Q (s/m <sup>3</sup> )	6.00E-04	KR-83M	9.881E-08	2.059E-08	7.80E-07	2.36E-04	7.96E-10	-6.01E-06	1.75E-06	2.92E-09
LPZ X/Q (s/m <sup>3</sup> )	1.25E-04	KR-85	9.736E-07	2.028E-07	7.22E-08	1.32E-04	6.51E-11	-4.91E-07	3.02E-07	3.05E-08
Offsite Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-85M	1.461E-03	3.043E-04	1.95E-06	1.75E-04	1.86E-09	-1.40E-05	6.32E-06	4.47E-05
CR Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-87	1.063E-02	2.215E-03	3.47E-06	2.84E-04	3.75E-09	-2.83E-05	5.85E-06	3.05E-04
CR Volume (m <sup>3</sup> )	7.16E+03	KR-88	5.145E-02	1.072E-02	5.42E-06	2.00E-04	5.30E-09	-4.00E-05	1.51E-05	1.55E-03
CR X/Q (s/m <sup>3</sup> )	8.00E-04	KR-89	5.082E-05	1.059E-05	9.58E-08	3.76E-03	6.73E-09	-5.08E-05	1.39E-16	6.85E-07
CR Recirc Flow (m <sup>3</sup> /s)	1.8878E+00	I-128	3.632E-07	7.568E-08	1.10E-09	5.95E-04	1.73E-12	-1.30E-08	2.87E-10	8.28E-08
CR Flow In (m <sup>3</sup> /s)	9.4861E-01	I-130	1.688E-04	3.517E-05	4.41E-09	1.48E-04	4.05E-12	-3.06E-08	1.68E-08	6.63E-05
CR Flow Out (m <sup>3</sup> /s)	9.4861E-01	I-131	1.897E-02	3.952E-03	5.36E-08	1.33E-04	4.84E-11	-3.66E-07	2.23E-07	1.03E-02
		I-132	9.140E-04	1.904E-04	6.93E-08	2.16E-04	6.91E-11	-5.22E-07	1.75E-07	1.37E-04
		I-133	6.811E-03	1.419E-03	1.06E-07	1.42E-04	9.67E-11	-7.30E-07	4.20E-07	3.54E-03
		I-134	8.301E-04	1.729E-04	9.25E-08	3.52E-04	1.09E-10	-8.20E-07	1.04E-07	5.57E-05
		I-135	1.999E-03	4.164E-04	9.65E-08	1.62E-04	9.01E-11	-6.80E-07	3.39E-07	6.55E-04
		XE-129M	2.664E-08	5.551E-09	2.22E-10	1.33E-04	2.01E-13	-1.52E-09	9.25E-10	8.35E-10
		XE-131M	2.774E-06	5.779E-07	6.30E-08	1.33E-04	5.69E-11	-4.29E-07	2.63E-07	8.69E-08
		XE-133	1.841E-03	3.835E-04	1.05E-05	1.34E-04	9.44E-09	-7.13E-05	4.33E-05	5.76E-05
		XE-133M	5.306E-05	1.105E-05	3.45E-07	1.36E-04	3.13E-10	-2.36E-06	1.41E-06	1.66E-06
		XE-135	4.520E-03	9.417E-04	3.57E-06	1.54E-04	3.30E-09	-2.49E-05	1.31E-05	1.40E-04
		XE-135M	4.766E-04	9.928E-05	9.27E-07	8.73E-04	2.03E-09	-1.53E-05	4.56E-08	9.86E-06
		XE-137	9.379E-05	1.954E-05	2.60E-07	3.16E-03	8.84E-09	-6.67E-05	1.43E-14	1.31E-06
		XE-138	5.036E-03	1.049E-03	3.81E-06	9.52E-04	9.19E-09	-6.94E-05	1.17E-07	1.01E-04
		RB-86	1.971E-07	4.107E-08	2.76E-12	3.94E-04	2.49E-15	-5.72E-12	5.97E-12	6.88E-08
		RB-88	3.642E-07	7.587E-08	3.08E-10	1.04E-03	6.04E-13	-1.39E-09	1.36E-11	2.49E-08
		RB-89	9.515E-07	1.982E-07	3.52E-10	1.15E-03	7.89E-13	-1.81E-09	7.98E-12	2.45E-08
		CS-132	5.064E-09	1.055E-09	3.00E-13	3.95E-04	2.71E-16	-6.22E-13	6.46E-13	1.41E-09
		CS-134	1.331E-04	2.773E-05	2.64E-10	3.93E-04	2.38E-13	-5.46E-10	5.73E-10	4.61E-05
		CS-134M	2.786E-08	5.805E-09	5.92E-11	4.59E-04	5.77E-14	-1.33E-10	8.63E-11	7.98E-09
		CS-136	6.310E-06	1.315E-06	6.98E-11	3.94E-04	6.30E-14	-1.45E-10	1.51E-10	1.94E-06
		CS-137	3.224E-05	6.716E-06	9.33E-11	3.93E-04	8.41E-14	-1.93E-10	2.03E-10	1.12E-05
		CS-138	4.910E-06	1.023E-06	8.08E-10	7.52E-04	1.12E-12	-2.57E-09	2.04E-10	1.95E-07
			1.056E-01	2.199E-02						1.708E-02

			EAB Dose	LPZ Dose	Initial CR				Final CR	CR Dose
		Isotope	(Rem TEDE)	(Rem TEDE)	Conc (Ci/m <sup>3</sup> )	$\alpha$	$\beta$	$\gamma$	Conc (Ci/m <sup>3</sup> )	(Rem TEDE)
Start Time (s)	7200	BR-82	0.000E+00	6.193E-06	2.45E-09	1.38E-04	4.81E-13	-2.80E-09	3.05E-09	3.60E-05
End Time (s)	28800	BR-83	0.000E+00	8.174E-07	2.00E-08	2.13E-04	6.72E-12	-3.92E-08	4.95E-09	7.91E-06
Release Rate (1/s)	1.1574E-07	BR-84	0.000E+00	6.103E-07	4.83E-09	4.97E-04	1.26E-11	-7.33E-08	2.57E-12	7.27E-07
EAB X/Q (s/m <sup>3</sup> )	0.00E+00	KR-83M	0.000E+00	1.025E-08	1.75E-06	2.36E-04	6.97E-10	-4.06E-06	2.62E-07	5.84E-09
LPZ X/Q (s/m <sup>3</sup> )	6.00E-05	KR-85	0.000E+00	3.505E-07	3.02E-07	1.32E-04	5.69E-11	-3.32E-07	4.23E-07	2.11E-07
Offsite Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-85M	0.000E+00	3.003E-04	6.32E-06	1.75E-04	1.62E-09	-9.47E-06	3.49E-06	1.77E-04
CR Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-87	0.000E+00	6.909E-04	5.85E-06	2.84E-04	3.28E-09	-1.91E-05	3.11E-07	3.85E-04
CR Volume (m <sup>3</sup> )	7.16E+03	KR-88	0.000E+00	7.880E-03	1.51E-05	2.00E-04	4.63E-09	-2.70E-05	4.88E-06	4.57E-03
CR X/Q (s/m <sup>3</sup> )	7.00E-04	KR-89	0.000E+00	1.767E-15	1.39E-16	3.76E-03	5.89E-09	-3.43E-05	1.73E-50	8.40E-16
CR Recirc Flow (m <sup>3</sup> /s)	1.8878E+00	I-128	0.000E+00	2.419E-09	2.87E-10	5.95E-04	1.51E-12	-8.81E-09	1.85E-14	1.19E-08
CR Flow In (m <sup>3</sup> /s)	9.4861E-01	I-130	0.000E+00	4.923E-05	1.68E-08	1.48E-04	3.54E-12	-2.07E-08	1.68E-08	3.72E-04
CR Flow Out (m <sup>3</sup> /s)	9.4861E-01	I-131	0.000E+00	6.736E-03	2.23E-07	1.33E-04	4.24E-11	-2.47E-07	3.06E-07	7.05E-02
		I-132	0.000E+00	1.171E-04	1.75E-07	2.16E-04	6.04E-11	-3.52E-07	4.02E-08	3.38E-04
		I-133	0.000E+00	2.161E-03	4.20E-07	1.42E-04	8.46E-11	-4.93E-07	4.81E-07	2.16E-02
		I-134	0.000E+00	3.009E-05	1.04E-07	3.52E-04	9.50E-11	-5.54E-07	1.26E-09	3.98E-05
		I-135	0.000E+00	4.887E-04	3.39E-07	1.62E-04	7.88E-11	-4.60E-07	2.53E-07	3.08E-03
		XE-129M	0.000E+00	9.473E-09	9.25E-10	1.33E-04	1.76E-13	-1.02E-09	1.27E-09	5.69E-09
		XE-131M	0.000E+00	9.894E-07	2.63E-07	1.33E-04	4.98E-11	-2.90E-07	3.62E-07	5.95E-07
		XE-133	0.000E+00	6.488E-04	4.33E-05	1.34E-04	8.26E-09	-4.82E-05	5.87E-05	3.90E-04
		XE-133M	0.000E+00	1.821E-05	1.41E-06	1.36E-04	2.73E-10	-1.59E-06	1.84E-06	1.09E-05
		XE-135	0.000E+00	1.225E-03	1.31E-05	1.54E-04	2.89E-09	-1.68E-05	1.16E-05	7.28E-04
		XE-135M	0.000E+00	5.670E-07	4.56E-08	8.73E-04	1.78E-09	-1.04E-05	7.21E-15	2.83E-07
		XE-137	0.000E+00	1.236E-13	1.43E-14	3.16E-03	7.73E-09	-4.51E-05	8.58E-43	5.89E-14
		XE-138	0.000E+00	3.718E-06	1.17E-07	9.52E-04	8.04E-09	-4.69E-05	3.37E-15	1.84E-06
		RB-86	0.000E+00	7.054E-08	5.97E-12	3.94E-04	2.18E-15	7.70E-12	5.47E-12	2.78E-07
		RB-88	0.000E+00	7.570E-10	1.36E-11	1.04E-03	5.29E-13	1.87E-09	1.03E-17	7.40E-10
		RB-89	0.000E+00	1.006E-09	7.98E-12	1.15E-03	6.90E-13	2.44E-09	5.47E-19	3.83E-10
		CS-132	0.000E+00	1.792E-09	6.46E-13	3.95E-04	2.37E-16	8.38E-13	5.81E-13	5.61E-09
		CS-134	0.000E+00	4.791E-05	5.73E-10	3.93E-04	2.08E-13	7.37E-10	5.29E-10	1.87E-04
		CS-134M	0.000E+00	4.348E-09	8.63E-11	4.59E-04	5.05E-14	1.79E-10	1.91E-11	1.44E-08
		CS-136	0.000E+00	2.253E-06	1.51E-10	3.94E-04	5.51E-14	1.95E-10	1.38E-10	7.82E-06
		CS-137	0.000E+00	1.161E-05	2.03E-10	3.93E-04	7.36E-14	2.61E-10	1.87E-10	4.56E-05
		CS-138	0.000E+00	6.455E-08	2.04E-10	7.52E-04	9.80E-13	3.47E-09	8.13E-14	3.33E-08
			0.000E+00	2.042E-02						1.024E-01

			EAB Dose (Rem TEDE)	LPZ Dose (Rem TEDE)	Initial CR Conc (Ci/m <sup>3</sup> )	$\alpha$	$\beta$	$\gamma$	Final CR Conc (Ci/m <sup>3</sup> )	CR Dose (Rem TEDE)
Start Time (s)	28800	BR-82	0.000E+00	7.454E-06	3.05E-09	1.38E-04	2.06E-13	9.12E-08	9.72E-10	4.397E-05
End Time (s)	86400	BR-83	0.000E+00	6.981E-08	4.95E-09	2.13E-04	2.88E-12	1.27E-06	2.13E-11	1.245E-06
Release Rate (1/s)	1.1574E-07	BR-84	0.000E+00	1.674E-10	2.57E-12	4.97E-04	5.39E-12	2.39E-06	8.49E-22	2.952E-10
EAB X/Q (s/m <sup>3</sup> )	0.00E+00	KR-83M	0.000E+00	9.182E-10	2.62E-07	2.36E-04	2.99E-10	1.32E-04	2.95E-10	5.488E-10
LPZ X/Q (s/m <sup>3</sup> )	4.50E-05	KR-85	0.000E+00	7.009E-07	4.23E-07	1.32E-04	2.44E-11	1.08E-05	1.84E-07	3.123E-07
Offsite Breath. Rate (m <sup>3</sup> /s)	1.80E-04	KR-85M	0.000E+00	1.348E-04	3.49E-06	1.75E-04	6.96E-10	3.08E-04	1.28E-07	6.913E-05
CR Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-87	0.000E+00	2.046E-05	3.11E-07	2.84E-04	1.40E-09	6.22E-04	2.21E-11	1.317E-05
CR Volume (m <sup>3</sup> )	7.16E+03	KR-88	0.000E+00	1.742E-03	4.88E-06	2.00E-04	1.99E-09	8.79E-04	4.29E-08	9.601E-04
CR X/Q (s/m <sup>3</sup> )	3.00E-04	KR-89	0.000E+00	1.175E-49	1.73E-50	3.76E-03	2.52E-09	1.12E-03	1.18E-141	1.006E-49
CR Recirc Flow (m <sup>3</sup> /s)	1.8878E+00	I-128	0.000E+00	6.249E-14	1.85E-14	5.95E-04	6.47E-13	2.86E-07	2.20E-26	6.111E-13
CR Flow In (m <sup>3</sup> /s)	9.4861E-01	I-130	0.000E+00	3.592E-05	1.68E-08	1.48E-04	1.52E-12	6.72E-07	2.99E-09	3.240E-04
CR Flow Out (m <sup>3</sup> /s)	9.4861E-01	I-131	0.000E+00	6.698E-03	3.06E-07	1.33E-04	1.82E-11	8.03E-06	1.26E-07	1.007E-01
		I-132	0.000E+00	1.506E-05	4.02E-08	2.16E-04	2.59E-11	1.15E-05	1.41E-10	4.916E-05
		I-133	0.000E+00	1.631E-03	4.81E-07	1.42E-04	3.63E-11	1.60E-05	1.23E-07	2.314E-02
		I-134	0.000E+00	1.897E-07	1.26E-09	3.52E-04	4.07E-11	1.80E-05	1.77E-15	3.327E-07
		I-135	0.000E+00	2.438E-04	2.53E-07	1.62E-04	3.38E-11	1.50E-05	2.06E-08	1.772E-03
		XE-129M	0.000E+00	1.828E-08	1.27E-09	1.33E-04	7.52E-14	3.33E-08	5.26E-10	8.168E-09
		XE-131M	0.000E+00	1.927E-06	3.62E-07	1.33E-04	2.13E-11	9.44E-06	1.52E-07	8.604E-07
		XE-133	0.000E+00	1.222E-03	5.87E-05	1.34E-04	3.54E-09	1.57E-03	2.34E-05	5.469E-04
		XE-133M	0.000E+00	3.176E-05	1.84E-06	1.36E-04	1.17E-10	5.19E-05	6.55E-07	1.431E-05
		XE-135	0.000E+00	1.116E-03	1.16E-05	1.54E-04	1.24E-09	5.48E-04	1.50E-06	5.326E-04
		XE-135M	0.000E+00	4.806E-14	7.21E-15	8.73E-04	7.62E-10	3.37E-04	9.39E-34	3.840E-14
		XE-137	0.000E+00	3.963E-42	8.58E-43	3.16E-03	3.31E-09	1.47E-03	8.37E-119	3.380E-42
		XE-138	0.000E+00	5.748E-14	3.37E-15	9.52E-04	3.45E-09	1.52E-03	4.70E-36	4.628E-14
		RB-86	0.000E+00	7.185E-08	5.47E-12	3.94E-04	9.33E-16	2.62E-07	2.29E-12	3.275E-07
		RB-88	0.000E+00	4.205E-16	1.03E-17	1.04E-03	2.27E-13	6.38E-05	2.56E-34	4.508E-16
		RB-89	0.000E+00	5.497E-17	5.47E-19	1.15E-03	2.96E-13	8.32E-05	2.28E-38	2.170E-17
		CS-132	0.000E+00	2.125E-09	5.81E-13	3.95E-04	1.01E-16	2.86E-08	2.32E-13	6.416E-09
		CS-134	0.000E+00	5.005E-05	5.29E-10	3.93E-04	8.92E-14	2.51E-05	2.27E-10	2.240E-04
		CS-134M	0.000E+00	6.042E-10	1.91E-11	4.59E-04	2.16E-14	6.09E-06	1.81E-13	2.240E-09
		CS-136	0.000E+00	2.545E-06	1.38E-10	3.94E-04	2.36E-14	6.64E-06	5.69E-11	9.153E-06
		CS-137	0.000E+00	1.204E-05	1.87E-10	3.93E-04	3.15E-14	8.88E-06	8.02E-11	5.470E-05
		CS-138	0.000E+00	2.016E-11	8.13E-14	7.52E-04	4.20E-13	1.18E-04	3.71E-23	9.702E-12
			0.000E+00	1.296E-02						1.285E-01

			EAB Dose	LPZ Dose	Initial CR				Final CR	CR Dose
		Isotope	(Rem TEDE)	(Rem TEDE)	Conc (Ci/m <sup>3</sup> )	$\alpha$	$\beta$	$\gamma$	Conc (Ci/m <sup>3</sup> )	(Rem TEDE)
Start Time (s)	86400	BR-82	0.000E+00	0.000E+00	9.72E-10	1.38E-04	0.00E+00	1.45E-04	4.38E-20	3.963E-06
End Time (s)	2.59E+05	BR-83	0.000E+00	0.000E+00	2.13E-11	2.13E-04	0.00E+00	2.02E-03	2.35E-27	3.132E-09
Release Rate (1/s)	0	BR-84	0.000E+00	0.000E+00	8.49E-22	4.97E-04	0.00E+00	3.79E-03	4.27E-59	8.421E-20
EAB X/Q (s/m <sup>3</sup> )	0.00E+00	KR-83M	0.000E+00	0.000E+00	2.95E-10	2.36E-04	0.00E+00	2.10E-01	5.83E-28	3.966E-13
LPZ X/Q (s/m <sup>3</sup> )	0.00E+00	KR-85	0.000E+00	0.000E+00	1.84E-07	1.32E-04	0.00E+00	1.71E-02	2.13E-17	3.503E-08
Offsite Breath. Rate (m <sup>3</sup> /s)	0.00E+00	KR-85M	0.000E+00	0.000E+00	1.28E-07	1.75E-04	0.00E+00	4.89E-01	8.83E-21	1.157E-06
CR Breath. Rate (m <sup>3</sup> /s)	3.50E-04	KR-87	0.000E+00	0.000E+00	2.21E-11	2.84E-04	0.00E+00	9.87E-01	1.11E-32	6.787E-10
CR Volume (m <sup>3</sup> )	7.16E+03	KR-88	0.000E+00	0.000E+00	4.29E-08	2.00E-04	0.00E+00	1.40E+00	4.05E-23	4.621E-06
CR X/Q (s/m <sup>3</sup> )	0.00E+00	KR-89	0.000E+00	0.000E+00	1.18E-141	3.76E-03	0.00E+00	1.77E+00	0.00E+00	6.758E-141
CR Recirc Flow (m <sup>3</sup> /s)	1.8878E+00	I-128	0.000E+00	0.000E+00	2.20E-26	5.95E-04	0.00E+00	4.55E-04	5.17E-71	6.466E-25
CR Flow In (m <sup>3</sup> /s)	9.4861E-01	I-130	0.000E+00	0.000E+00	2.99E-09	1.48E-04	0.00E+00	1.07E-03	2.34E-20	1.910E-05
CR Flow Out (m <sup>3</sup> /s)	9.4861E-01	I-131	0.000E+00	0.000E+00	1.26E-07	1.33E-04	0.00E+00	1.28E-02	1.22E-17	1.086E-02
		I-132	0.000E+00	0.000E+00	1.41E-10	2.16E-04	0.00E+00	1.82E-02	8.53E-27	1.027E-07
		I-133	0.000E+00	0.000E+00	1.23E-07	1.42E-04	0.00E+00	2.55E-02	2.88E-18	1.784E-03
		I-134	0.000E+00	0.000E+00	1.77E-15	3.52E-04	0.00E+00	2.86E-02	6.73E-42	3.685E-13
		I-135	0.000E+00	0.000E+00	2.06E-08	1.62E-04	0.00E+00	2.37E-02	1.55E-20	5.708E-05
		XE-129M	0.000E+00	0.000E+00	5.26E-10	1.33E-04	0.00E+00	5.29E-05	5.20E-20	8.841E-10
		XE-131M	0.000E+00	0.000E+00	1.52E-07	1.33E-04	0.00E+00	1.50E-02	1.57E-17	9.401E-08
		XE-133	0.000E+00	0.000E+00	2.34E-05	1.34E-04	0.00E+00	2.49E+00	2.08E-15	5.774E-05
		XE-133M	0.000E+00	0.000E+00	6.55E-07	1.36E-04	0.00E+00	8.24E-02	4.14E-17	1.396E-06
		XE-135	0.000E+00	0.000E+00	1.50E-06	1.54E-04	0.00E+00	8.70E-01	4.46E-18	2.457E-05
		XE-135M	0.000E+00	0.000E+00	9.39E-34	8.73E-04	0.00E+00	5.35E-01	2.89E-99	4.641E-33
		XE-137	0.000E+00	0.000E+00	8.37E-119	3.16E-03	0.00E+00	2.33E+00	0.00E+00	3.235E-118
		XE-138	0.000E+00	0.000E+00	4.70E-36	9.52E-04	0.00E+00	2.42E+00	1.77E-107	6.025E-35
		RB-86	0.000E+00	0.000E+00	2.29E-12	3.94E-04	0.00E+00	1.36E+03	6.49E-42	1.346E-08
		RB-88	0.000E+00	0.000E+00	2.56E-34	1.04E-03	0.00E+00	3.29E+05	1.54E-112	8.920E-33
		RB-89	0.000E+00	0.000E+00	2.28E-38	1.15E-03	0.00E+00	4.30E+05	6.40E-125	7.396E-37
		CS-132	0.000E+00	0.000E+00	2.32E-13	3.95E-04	0.00E+00	1.47E+02	5.73E-43	2.568E-10
		CS-134	0.000E+00	0.000E+00	2.27E-10	3.93E-04	0.00E+00	1.30E+05	6.92E-40	9.335E-06
		CS-134M	0.000E+00	0.000E+00	1.81E-13	4.59E-04	0.00E+00	3.15E+04	6.00E-48	6.100E-12
		CS-136	0.000E+00	0.000E+00	5.69E-11	3.94E-04	0.00E+00	3.43E+04	1.57E-40	3.740E-07
		CS-137	0.000E+00	0.000E+00	8.02E-11	3.93E-04	0.00E+00	4.58E+04	2.45E-40	2.280E-06
		CS-138	0.000E+00	0.000E+00	3.71E-23	7.52E-04	0.00E+00	6.10E+05	1.37E-79	3.010E-21
			0.000E+00	0.000E+00						1.283E-02

Interval	TEDE Dose in Time Interval		
	EAB	LPZ	CR
0-20 min	4.118E-02	8.579E-03	7.283E-04
20 min - 2 hrs	1.056E-01	2.199E-02	1.708E-02
2-8 hrs	0.000E+00	2.042E-02	1.024E-01
8-24 hrs	0.000E+00	1.296E-02	1.285E-01
24 hr+	0.000E+00	0.000E+00	1.283E-02
<b>TOTAL</b>	<b>1.467E-01</b>	<b>6.396E-02</b>	<b>2.615E-01</b>

```
#####
RADTRAD Version 3.02 run on 9/27/2000 at 15:21:41
#####
```

```
#####
File information
#####
```

```
Plant file name      = D:\radtrad 3.02\crda.psf
Inventory file name  = d:\radtrad 3.02\defaults\crda.nif
Scenario file name   = D:\radtrad 3.02\crda.psf
Release file name    = d:\radtrad 3.02\defaults\crda.rft
Dose conversion file name = d:\radtrad 3.02\defaults\fgr11&12.inp
```

```
#####      #####      #####      # # #      #####      # # #####
# # #      # # #      # # #      # # #      # # #      # # #
# # #      # # #      # # #      # # #      # # #      # # #
#####      #####      #####      # # #      #####      # # #
# # #      # # #      # # #      # # #      # # #      # # #
# # #      # # #      # # #      # # #      # # #      # # #
# # #      #####      # # #      # # #      # # #      # # #
```

Radtrad 3.02 1/5/2000

Nuclide Inventory File:  
d:\radtrad 3.02\defaults\crda.nif

Plant Power Level:

1.0000E+00

Compartments:

3

Compartment 1:

Condenser

3

2.8390E+05

0

0

0

0

0

Compartment 2:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 3:

Control Room

1

2.5300E+05

0

0

1

0

0

Pathways:

4

Pathway 1:

Condenser to Environment

1

2

```

4
Pathway 2:
Environment to Control Room
2
3
2
Pathway 3:
Control Room to Environment
3
2
2
Pathway 4:
Control Room to Control Room
3
3
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
1
1 1.0000E+00
d:\radtrad 3.02\defaults\fgr11&12.inp
d:\radtrad 3.02\defaults\crda.rft
0.0000E+00
0
0.0000E+00 9.7000E-01 3.0000E-02 1.0000E+00
Overlying Pool:
0
0.0000E+00
0
0
0
0
Compartments:
3
Compartment 1:
0
1
0
0
0
0
0
0
0
0
Compartment 2:
0
1
0
0
0
0
0
0
0
0
Compartment 3:
0
1
0
0
0
0
1
4.0000E+03
3
0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00
3.3330E-01 9.9000E+01 0.0000E+00 0.0000E+00

```

7.2000E+01	9.9000E+01	0.0000E+00	0.0000E+00	
0				
0				
Pathways:				
4				
Pathway 1:				
0				
0				
0				
0				
0				
0				
0				
0				
0				
1				
3				
0.0000E+00	1.0000E+00			
2.4000E+01	0.0000E+00			
7.2000E+01	0.0000E+00			
0				
Pathway 2:				
0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 3:				
0				
0				
0				
0				
0				
1				
3				
0.0000E+00	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.3330E-01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 4:				
0				
0				
0				
0				
0				
1				
3				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3330E-01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				

```

0
0
Dose Locations:
3
Location 1:
EAB
2
1
2
0.0000E+00    6.0000E-04
2.0000E+00    0.0000E+00
1
2
0.0000E+00    3.5000E-04
2.0000E+00    0.0000E+00
0
Location 2:
LPZ
2
1
4
0.0000E+00    1.2500E-04
2.0000E+00    6.0000E-05
8.0000E+00    4.5000E-05
2.4000E+01    0.0000E+00
1
3
0.0000E+00    3.5000E-04
8.0000E+00    1.8000E-04
2.4000E+01    0.0000E+00
0
Location 3:
Control Room
3
0
1
2
0.0000E+00    3.5000E-04
7.2000E+01    0.0000E+00
1
3
0.0000E+00    1.0000E+00
2.4000E+01    1.0000E+00
7.2000E+01    0.0000E+00
Effective Volume Location:
1
4
0.0000E+00    8.0000E-04
2.0000E+00    7.0000E-04
8.0000E+00    3.0000E-04
2.4000E+01    0.0000E+00
Simulation Parameters:
4
0.0000E+00    1.0000E-02
2.4000E+01    1.0000E-01
9.6000E+01    1.0000E+00
7.2000E+02    0.0000E+00
Output Filename:
D:\radtrad 3.o53
1
1
1
0
0
End of Scenario File

```

```
#####
RADTRAD Version 3.02 run on 9/27/2000 at 15:21:41
#####

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

Number of Nuclides = 60

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

Number of compartments = 3

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00
)
Name: Condenser
Compartment volume = 2.8390E+05 (Cubic feet)
Pathways into and out of compartment 1
    Pathway to compartment number 2: Condenser to Environment

Compartment number 2
Name: Environment
Pathways into and out of compartment 2
    Pathway to compartment number 3: Environment to Control Room
    Pathway from compartment number 1: Condenser to Environment
    Pathway from compartment number 3: Control Room to Environment

Compartment number 3
Name: Control Room
Compartment volume = 2.5300E+05 (Cubic feet)
Removal devices within compartment:
    Filter(s)
Pathways into and out of compartment 3
    Pathway to compartment number 2: Control Room to Environment
    Pathway to compartment number 3: Control Room to Control Room
    Pathway from compartment number 2: Environment to Control Room
    Pathway from compartment number 3: Control Room to Control Room

Total number of pathways = 4
```

```
#####
RADTRAD Version 3.02 run on 9/27/2000 at 15:21:41
#####

#####
Scenario Description
#####
```

Radioactive Decay is enabled  
RELEASE\_NAME = GCNS Control Rod Drop Release Fractions  
Release Fractions and Timings

	GAP	EARLY IN-VESSEL
	0.0000 hrs	0.0000 hrs
NOBLES	1.0000E+00	0.0000E+00
IODINE	1.0000E+00	0.0000E+00
CESIUM	1.0000E+00	0.0000E+00
TELLURIUM	0.0000E+00	0.0000E+00
STRONTIUM	0.0000E+00	0.0000E+00
BARIUM	0.0000E+00	0.0000E+00
RUTHENIUM	0.0000E+00	0.0000E+00
CERIUM	0.0000E+00	0.0000E+00
LANTHANUM	0.0000E+00	0.0000E+00

Iodine fractions  
Aerosol = 0.0000E+00  
Elemental = 9.7000E-01  
Organic = 3.0000E-02

#### COMPARTMENT DATA

Compartment number 1: Condenser  
Compartment number 2: Environment  
Compartment number 3: Control Room

#### Compartment Filter Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.3330E-01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00
7.2000E+01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00

#### PATHWAY DATA

Pathway number 1: Condenser to Environment

#### Convection Data

Time (hr)	Flow Rate (% / day)
0.0000E+00	1.0000E+00
2.4000E+01	0.0000E+00
7.2000E+01	0.0000E+00

Pathway number 2: Environment to Control Room

#### Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Control Room to Environment

#### Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic

0.0000E+00	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.3330E-01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Control Room 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
3.3330E-01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00
7.2000E+01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## LOCATION DATA

Location EAB is in compartment 2

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	6.0000E-04
2.0000E+00	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
2.0000E+00	0.0000E+00

Location LPZ is in compartment 2

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.2500E-04
2.0000E+00	6.0000E-05
8.0000E+00	4.5000E-05
2.4000E+01	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	0.0000E+00

Location Control Room is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	8.0000E-04
2.0000E+00	7.0000E-04
8.0000E+00	3.0000E-04
2.4000E+01	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
7.2000E+01	0.0000E+00

Location Occupancy Factor Data

Time (hr)	Occupancy Factor
0.0000E+00	1.0000E+00
2.4000E+01	1.0000E+00
7.2000E+01	0.0000E+00

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
2.4000E+01	1.0000E-01
9.6000E+01	1.0000E+00
7.2000E+02	0.0000E+00

#####  
RADTRAD Version 3.02 run on 9/27/2000 at 15:21:41  
#####

```

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

```

#####  
Dose Output  
#####

EAB Doses:

Time (h) =	0.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.0011E-08	2.6075E-07	3.8299E-08
Accumulated dose (rem)		3.0011E-08	2.6075E-07	3.8299E-08

LPZ Doses:

Time (h) =	0.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.2522E-09	5.4323E-08	7.9790E-09
Accumulated dose (rem)		6.2522E-09	5.4323E-08	7.9790E-09

Control Room Doses:

Time (h) =	0.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.4494E-16	8.2863E-14	3.1789E-15
Accumulated dose (rem)		5.4494E-16	8.2863E-14	3.1789E-15

EAB Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.9086E-02	1.7333E-01	2.4590E-02
Accumulated dose (rem)		1.9086E-02	1.7333E-01	2.4590E-02

LPZ Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.9762E-03	3.6111E-02	5.1230E-03
Accumulated dose (rem)		3.9762E-03	3.6111E-02	5.1230E-03

Control Room Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0263E-04	1.6552E-02	6.2810E-04
Accumulated dose (rem)		1.0263E-04	1.6552E-02	6.2810E-04

EAB Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.2736E-02	8.5250E-01	9.9689E-02
Accumulated dose (rem)		9.1821E-02	1.0258E+00	1.2428E-01

LPZ Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.5153E-02	1.7760E-01	2.0769E-02
Accumulated dose (rem)		1.9129E-02	2.1372E-01	2.5892E-02

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.1402E-03	4.5803E-01	1.6565E-02
Accumulated dose (rem)		2.2428E-03	4.7458E-01	1.7193E-02

EAB Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		9.1821E-02	1.0258E+00	1.2428E-01

LPZ Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1213E-02	2.9049E-01	2.0325E-02
Accumulated dose (rem)		3.0342E-02	5.0420E-01	4.6217E-02

Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.5131E-03	3.0458E+00	1.0156E-01
Accumulated dose (rem)		8.7560E-03	3.5204E+00	1.1876E-01

EAB Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		9.1821E-02	1.0258E+00	1.2428E-01

LPZ Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.5984E-03	2.6401E-01	1.2813E-02
Accumulated dose (rem)		3.4941E-02	7.6821E-01	5.9030E-02

Control Room Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.2954E-03	4.0419E+00	1.2738E-01
Accumulated dose (rem)		1.1051E-02	7.5623E+00	2.4613E-01

EAB Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		9.1821E-02	1.0258E+00	1.2428E-01

LPZ Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		3.4941E-02	7.6821E-01	5.9030E-02

Control Room Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.8734E-05	4.0939E-01	1.2691E-02
Accumulated dose (rem)		1.1150E-02	7.9717E+00	2.5882E-01

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#####  
I-131 Summary  
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	Condenser	Environment	Control Room
Time (hr)	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	3.9480E+03	8.2250E-07	6.2419E-10
0.260	3.9439E+03	4.2751E-01	2.8739E-04

0.333	3.9427E+03	5.4796E-01	3.5631E-04
0.590	3.9387E+03	9.6950E-01	6.1596E-04
0.840	3.9347E+03	1.3797E+00	8.3957E-04
1.090	3.9308E+03	1.7894E+00	1.0376E-03
1.340	3.9268E+03	2.1988E+00	1.2130E-03
1.590	3.9229E+03	2.6078E+00	1.3682E-03
1.840	3.9190E+03	3.0164E+00	1.5056E-03
2.000	3.9165E+03	3.2777E+00	1.5851E-03
2.250	3.9125E+03	3.6856E+00	1.6610E-03
2.500	3.9086E+03	4.0932E+00	1.7281E-03
2.750	3.9047E+03	4.5003E+00	1.7873E-03
3.000	3.9008E+03	4.9071E+00	1.8396E-03
3.250	3.8969E+03	5.3134E+00	1.8858E-03
3.500	3.8930E+03	5.7194E+00	1.9264E-03
3.750	3.8891E+03	6.1249E+00	1.9622E-03
4.000	3.8852E+03	6.5300E+00	1.9937E-03
4.250	3.8813E+03	6.9348E+00	2.0214E-03
4.500	3.8774E+03	7.3391E+00	2.0457E-03
4.750	3.8735E+03	7.7430E+00	2.0670E-03
5.000	3.8697E+03	8.1466E+00	2.0856E-03
5.250	3.8658E+03	8.5497E+00	2.1019E-03
5.500	3.8619E+03	8.9524E+00	2.1161E-03
5.750	3.8580E+03	9.3548E+00	2.1284E-03
6.000	3.8542E+03	9.7567E+00	2.1391E-03
6.250	3.8503E+03	1.0158E+01	2.1483E-03
6.500	3.8465E+03	1.0559E+01	2.1563E-03
6.750	3.8426E+03	1.0960E+01	2.1630E-03
7.000	3.8388E+03	1.1360E+01	2.1688E-03
7.250	3.8349E+03	1.1760E+01	2.1737E-03
7.500	3.8311E+03	1.2160E+01	2.1777E-03
7.750	3.8272E+03	1.2559E+01	2.1811E-03
8.000	3.8234E+03	1.2958E+01	2.1838E-03
8.250	3.8196E+03	1.3356E+01	2.0435E-03
8.500	3.8157E+03	1.3754E+01	1.9190E-03
8.750	3.8119E+03	1.4151E+01	1.8085E-03
9.000	3.8081E+03	1.4548E+01	1.7104E-03
9.250	3.8043E+03	1.4945E+01	1.6232E-03
9.500	3.8005E+03	1.5341E+01	1.5458E-03
9.750	3.7967E+03	1.5737E+01	1.4771E-03
10.000	3.7929E+03	1.6133E+01	1.4160E-03
10.250	3.7891E+03	1.6528E+01	1.3618E-03
24.000	3.5859E+03	3.7655E+01	8.9360E-04
72.000	3.0179E+03	3.7655E+01	8.6962E-14

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#### Cumulative Dose Summary

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Time (hr)	EAB		LPZ		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	2.6075E-07	3.8299E-08	5.4323E-08	7.9790E-09	8.2863E-14	3.1789E-15
0.260	1.3530E-01	1.9344E-02	2.8187E-02	4.0299E-03	1.0306E-02	3.9200E-04
0.333	1.7333E-01	2.4590E-02	3.6111E-02	5.1230E-03	1.6552E-02	6.2810E-04
0.590	3.0615E-01	4.2295E-02	6.3781E-02	8.8114E-03	4.9656E-02	1.8681E-03
0.840	4.3495E-01	5.8604E-02	9.0614E-02	1.2209E-02	9.7647E-02	3.6444E-03
1.090	5.6322E-01	7.4071E-02	1.1734E-01	1.5431E-02	1.5929E-01	5.9016E-03
1.340	6.9097E-01	8.8764E-02	1.4395E-01	1.8492E-02	2.3292E-01	8.5715E-03
1.590	8.1822E-01	1.0275E-01	1.7046E-01	2.1405E-02	3.1708E-01	1.1596E-02
1.840	9.4497E-01	1.1607E-01	1.9687E-01	2.4182E-02	4.1048E-01	1.4924E-02
2.000	1.0258E+00	1.2428E-01	2.1372E-01	2.5892E-02	4.7458E-01	1.7193E-02
2.250	1.0258E+00	1.2428E-01	2.2631E-01	2.7127E-02	5.7954E-01	2.0887E-02
2.500	1.0258E+00	1.2428E-01	2.3886E-01	2.8310E-02	6.8880E-01	2.4705E-02
2.750	1.0258E+00	1.2428E-01	2.5136E-01	2.9444E-02	8.0183E-01	2.8630E-02
3.000	1.0258E+00	1.2428E-01	2.6382E-01	3.0531E-02	9.1812E-01	3.2643E-02
3.250	1.0258E+00	1.2428E-01	2.7623E-01	3.1577E-02	1.0372E+00	3.6731E-02
3.500	1.0258E+00	1.2428E-01	2.8859E-01	3.2583E-02	1.1588E+00	4.0881E-02
3.750	1.0258E+00	1.2428E-01	3.0091E-01	3.3552E-02	1.2825E+00	4.5083E-02
4.000	1.0258E+00	1.2428E-01	3.1319E-01	3.4487E-02	1.4080E+00	4.9327E-02
4.250	1.0258E+00	1.2428E-01	3.2543E-01	3.5390E-02	1.5351E+00	5.3605E-02

4.500	1.0258E+00	1.2428E-01	3.3762E-01	3.6264E-02	1.6635E+00	5.7909E-02
4.750	1.0258E+00	1.2428E-01	3.4978E-01	3.7109E-02	1.7930E+00	6.2235E-02
5.000	1.0258E+00	1.2428E-01	3.6189E-01	3.7928E-02	1.9235E+00	6.6577E-02
5.250	1.0258E+00	1.2428E-01	3.7396E-01	3.8723E-02	2.0548E+00	7.0930E-02
5.500	1.0258E+00	1.2428E-01	3.8599E-01	3.9495E-02	2.1867E+00	7.5291E-02
5.750	1.0258E+00	1.2428E-01	3.9798E-01	4.0245E-02	2.3191E+00	7.9655E-02
6.000	1.0258E+00	1.2428E-01	4.0993E-01	4.0975E-02	2.4519E+00	8.4021E-02
6.250	1.0258E+00	1.2428E-01	4.2185E-01	4.1687E-02	2.5851E+00	8.8385E-02
6.500	1.0258E+00	1.2428E-01	4.3372E-01	4.2380E-02	2.7185E+00	9.2746E-02
6.750	1.0258E+00	1.2428E-01	4.4556E-01	4.3056E-02	2.8521E+00	9.7102E-02
7.000	1.0258E+00	1.2428E-01	4.5736E-01	4.3717E-02	2.9857E+00	1.0145E-01
7.250	1.0258E+00	1.2428E-01	4.6913E-01	4.4362E-02	3.1194E+00	1.0579E-01
7.500	1.0258E+00	1.2428E-01	4.8086E-01	4.4994E-02	3.2531E+00	1.1012E-01
7.750	1.0258E+00	1.2428E-01	4.9255E-01	4.5612E-02	3.3868E+00	1.1445E-01
8.000	1.0258E+00	1.2428E-01	5.0420E-01	4.6217E-02	3.5204E+00	1.1876E-01
8.250	1.0258E+00	1.2428E-01	5.0869E-01	4.6530E-02	3.6494E+00	1.2291E-01
8.500	1.0258E+00	1.2428E-01	5.1315E-01	4.6835E-02	3.7701E+00	1.2679E-01
8.750	1.0258E+00	1.2428E-01	5.1761E-01	4.7132E-02	3.8834E+00	1.3043E-01
9.000	1.0258E+00	1.2428E-01	5.2205E-01	4.7422E-02	3.9901E+00	1.3385E-01
9.250	1.0258E+00	1.2428E-01	5.2648E-01	4.7705E-02	4.0911E+00	1.3708E-01
9.500	1.0258E+00	1.2428E-01	5.3089E-01	4.7982E-02	4.1868E+00	1.4014E-01
9.750	1.0258E+00	1.2428E-01	5.3530E-01	4.8252E-02	4.2780E+00	1.4305E-01
10.000	1.0258E+00	1.2428E-01	5.3969E-01	4.8517E-02	4.3651E+00	1.4583E-01
10.250	1.0258E+00	1.2428E-01	5.4406E-01	4.8777E-02	4.4486E+00	1.4849E-01
24.000	1.0258E+00	1.2428E-01	7.6821E-01	5.9030E-02	7.5623E+00	2.4613E-01
72.000	1.0258E+00	1.2428E-01	7.6821E-01	5.9030E-02	7.9717E+00	2.5882E-01

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#### Worst Two-Hour Doses

Note: All of the dose locations are shown below but the worst two-hour dose is only meaningful for the EAB dose location. Please disregard the two-hour worst doses for the other dose locations

#####

#### EAB

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	9.1821E-02	1.0258E+00	1.2428E-01

#### LPZ

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	1.9129E-02	2.1372E-01	2.5892E-02

#### Control Room

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
5.0	1.7762E-03	1.0622E+00	3.4874E-02

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT      OO      2.08B      OO      RRRRRRRR
RRRRRRR      AA      AA      PPPPPP      TT      OO      OO      RRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OOOOOOO      RR      RR
RR      RR      AA      AA      PP      TT      OOO      RR      RR

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IIIIIIIIII NN      NN PPPPPP      UU      UU TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPPP      UU      UU TTTTTTTTTT
II      NNNN      NN PP      PP UU      UU      TT
II      NN NN      NN PP      PP UU      UU      TT
II      NN NN      NN PP      PP UU      UU      TT
II      NN NN      NN PPPPPPPP      UU      UU      TT
II      NN NN      NN PPPPPP      UU      UU      TT
II      NN      NN NN PP      UU      UU      TT
II      NN      NN NN PP      UU      UU      TT
IIIIIIIIII NN      NNN PP      UUUUUUUU      TT
IIIIIIIIII NN      NN PP      UU      TT

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Execution Time: 15:41:085 on 09/27/00

#### MODELED NUCLIDE PARAMTERS

Isotope	Group	Half-Life		Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Br-82	Halogens	1.4710E+000	Dys	4.8100E-001	0.0000E+000	1.5281E+003
Br-83	Halogens	2.4000E+000	Hrs	1.4134E-003	0.0000E+000	8.9170E+001
Br-84	Halogens	3.1800E+001	Hrs	3.4817E-001	0.0000E+000	8.3990E+001
Kr-83m	Noble Gas	1.8600E+000	Hrs	5.5500E-006	0.0000E+000	0.0000E+000
Kr-85	Noble Gas	1.0730E+001	Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000	Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000	Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000	Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Kr-89	Noble Gas	3.1500E+000	Min	0.0000E+000	0.0000E+000	0.0000E+000
I-128	Halogens	2.5000E+001	Min	1.5335E-002	0.0000E+000	4.7360E+001
I-130	Halogens	1.2360E+001	Hrs	3.8480E-001	0.0000E+000	2.6418E+003
I-131	Halogens	8.0400E+000	Dys	6.7340E-002	0.0000E+000	3.2893E+004
I-132	Halogens	2.2800E+000	Hrs	4.1440E-001	0.0000E+000	3.8110E+002
I-133	Halogens	2.0800E+001	Hrs	1.0878E-001	0.0000E+000	5.8460E+003
I-134	Halogens	5.2600E+001	Min	4.8100E-001	0.0000E+000	1.3135E+002
I-135	Halogens	6.5700E+000	Hrs	3.0688E-001	0.0000E+000	1.2284E+003
Xe-129m	Noble Gas	8.8900E+000	Dys	3.9220E-003	0.0000E+000	0.0000E+000
Xe-131m	Noble Gas	1.1900E+001	Dys	1.4393E-003	0.0000E+000	0.0000E+000
Xe-133	Noble Gas	5.2430E+000	Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-133m	Noble Gas	2.1900E+000	Dys	5.0690E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000	Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Xe-135m	Noble Gas	1.5300E+001	Min	7.5480E-002	0.0000E+000	0.0000E+000
Xe-137	Noble Gas	3.8200E+000	Min	2.1349E-001	0.0000E+000	0.0000E+000
Xe-138	Noble Gas	1.4100E+001	Min	2.1349E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001	Dys	1.7797E-002	0.0000E+000	6.6230E+003
Rb-88	Cesiums	1.7700E+001	Min	1.2432E-001	0.0000E+000	8.3620E+002
Rb-89	Cesiums	1.5400E+001	Min	3.9220E-001	0.0000E+000	4.2920E+001
Cs-132	Cesiums	6.4800E+000	Dys	1.2358E-001	0.0000E+000	1.2284E+003
Cs-134	Cesiums	2.0650E+000	Yrs	2.8009E-001	0.0000E+000	4.6250E+004
Cs-134m	Cesiums	2.9100E+000	Hrs	3.3485E-003	0.0000E+000	4.3660E+001
Cs-136	Cesiums	1.3160E+001	Dys	3.9220E-001	0.0000E+000	7.3260E+003
Cs-137	Cesiums	3.0170E+001	Yrs	1.0083E-001	0.0000E+000	3.1931E+004
Cs-138	Cesiums	3.2200E+001	Min	4.4770E-001	0.0000E+000	1.0138E+002

#### MODEL PARAMETERS

Core Power Level = 0.00 MW  
Core Decay Time = 0.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

#### NODE PARAMETERS

Name	Volume (cu.ft.)	
Condenser	2.840E+005	Inventory Tracked
ControlRoom	2.530E+005	Inventory Tracked
OutofCR	1.000E+000	Inventory Not Tracked

RELEASE POINTS  
Name  
Turbine\_Bldg\_Vent

RECEIPT POINTS  
Name  
EAB  
LPZ  
CR\_Intake

INITIAL INVENTORIES									
Br-82	Condenser	4.4810E+001	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
Br-83	Condenser	6.2640E+002	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
Br-84	Condenser	1.1720E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
Kr-83m	Condenser	6.4950E+004	Ci						
Kr-85	Condenser	5.3070E+003	Ci						
Kr-85m	Condenser	1.5130E+005	Ci						
Kr-87	Condenser	3.0560E+005	Ci						
Kr-88	Condenser	4.3200E+005	Ci						
Kr-89	Condenser	5.4870E+005	Ci						
I-128	Condenser	1.4070E+002	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-130	Condenser	3.3020E+002	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-131	Condenser	3.9480E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-132	Condenser	5.6320E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-133	Condenser	7.8850E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-134	Condenser	8.8550E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
I-135	Condenser	7.3480E+003	Ci	0.9700	elemental	0.0300	organic	0.0000	particulate
Xe-129m	Condenser	1.6370E+001	Ci						
Xe-131m	Condenser	4.6380E+003	Ci						
Xe-133	Condenser	7.7020E+005	Ci						
Xe-133m	Condenser	2.5490E+004	Ci						
Xe-135	Condenser	2.6910E+005	Ci						
Xe-135m	Condenser	1.6570E+005	Ci						
Xe-137	Condenser	7.2080E+005	Ci						
Xe-138	Condenser	7.4940E+005	Ci						
Rb-86	Condenser	2.0290E-001	Ci						
Rb-88	Condenser	4.9290E+001	Ci						
Rb-89	Condenser	6.4330E+001	Ci						
Cs-132	Condenser	2.2070E-002	Ci						
Cs-134	Condenser	1.9400E+001	Ci						
Cs-134m	Condenser	4.7080E+000	Ci						
Cs-136	Condenser	5.1360E+000	Ci						
Cs-137	Condenser	6.8610E+000	Ci						
Cs-138	Condenser	9.1340E+001	Ci						

RELEASE PARAMETERS  
No Releases

FLOW PARAMETERS

Flow#1 from Condenser to Turbine\_Bldg\_Vent  
0.000E+000 Sec to 2.400E+001 Hrs at 1.0000E+000 percent per day

Flow#2 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 7.200E+001 Hrs at 2.0100E+003 cfm

Flow#3 from ControlRoom to OutofCR  
0.000E+000 Sec to 7.200E+001 Hrs at 2.0100E+003 cfm

Flow#4 from ControlRoom to ControlRoom  
2.000E+001 Min to 7.200E+001 Hrs at 4.0000E+003 cfm

FILTER PARAMETERS

CRFAS\_HEPA on Flow#4 is Not Tracked  
0.000E+000 Sec to 7.200E+001 Hrs at All Groups      Particulate      0.990000

REMOVAL PARAMETERS  
No Removal Mechanisms

DIFFUSION PARAMETERS

Diffusion from Turbine\_Bldg\_Vent to EAB  
0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Turbine\_Bldg\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.

8.000E+000 Hrs to 2.400E+001 Hrs at 4.5000E-005 s/cu.m.

Diffusion from Turbine\_Bldg\_Vent to CR\_Intake

0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.

2.000E+000 Hrs to 8.000E+000 Hrs at 7.0000E-004 s/cu.m.

8.000E+000 Hrs to 2.400E+001 Hrs at 3.0000E-004 s/cu.m.

#### DOSE LOCATIONS

##### EAB

0.000E+000 Sec to 2.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 2.000E+000 Hrs at Occupancy Factor=1.000000

##### LPZ

0.000E+000 Sec to 8.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s

8.000E+000 Hrs to 2.400E+001 Hrs at Breathing Rate=1.8000E-004 cu.m./s

0.000E+000 Sec to 2.400E+001 Hrs at Occupancy Factor=1.000000

##### ControlRoom

0.000E+000 Sec to 7.200E+001 Hrs at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 7.200E+001 Hrs at Occupancy Factor=1.000000

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RRRRRR      AAAA      PPPPP      TTTTTTTTTT      000      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      0000000      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      00      00      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      00      00      RR      RR
RR      RR      AA      AA      PP      PP      TT      00      00      RR      RR
RRRRRRRR      AAAAAA      PPPPPPPP      TT      00      2.08B      00      RRRRRRRR
RRRRRRRR      AA      AA      PPPPPP      TT      00      00      RRRRRRRR
RR      RR      AA      AA      PP      TT      00      00      RR      RR
RR      RR      AA      AA      PP      TT      00      00      RR      RR
RR      RR      AA      AA      PP      TT      0000000      RR      RR
RR      RR      AA      AA      PP      TT      000      RR      RR

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      000      UU      UU      TTTTTTTTTT      PPPPPP      UU      UU      TTTTTTTTTT
0000000      UU      UU      TTTTTTTTTT      PPPPPPPP      UU      UU      TTTTTTTTTT
      00      00      UU      UU      TT      PP      PP      UU      UU      TT
      00      00      UU      UU      TT      PP      PP      UU      UU      TT
      00      00      UU      UU      TT      PP      PP      UU      UU      TT
      00      00      UU      UU      TT      PPPPPPPP      UU      UU      TT
      00      00      UU      UU      TT      PPPPPP      UU      UU      TT
      00      00      UU      UU      TT      PP      UU      UU      TT
      00      00      UU      UU      TT      PP      UU      UU      TT
      0000000      UUUUUUU      TT      PP      UUUUUUU      TT
      000      UU      TT      PP      UU      TT

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Time = 0.000000 Seconds  
ClockTime = 0.941000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000000	0.000000	0.000000	0.000000
LPZ	0.000000	0.000000	0.000000	0.000000
ControlRoom	0.000000	0.000000	0.000000	0.000000

Isotope	Condenser	ControlRoom
Br-82E	4.346570E+001	0.000000E+000
Br-82O	1.344300E+000	0.000000E+000
Br-83E	6.076080E+002	0.000000E+000
Br-83O	1.879200E+001	0.000000E+000
Br-84E	1.136840E+003	0.000000E+000
Br-84O	3.516000E+001	0.000000E+000
Kr-83m	6.495000E+004	0.000000E+000
Kr-85	5.307000E+003	0.000000E+000
Kr-85m	1.513000E+005	0.000000E+000
Kr-87	3.056000E+005	0.000000E+000
Kr-88	4.320000E+005	0.000000E+000
Kr-89	5.487000E+005	0.000000E+000
I-128E	1.364790E+002	0.000000E+000
I-128O	4.221000E+000	0.000000E+000
I-130E	3.202940E+002	0.000000E+000
I-130O	9.906000E+000	0.000000E+000
I-131E	3.829560E+003	0.000000E+000
I-131O	1.184400E+002	0.000000E+000
I-132E	5.463040E+003	0.000000E+000
I-132O	1.689600E+002	0.000000E+000
I-133E	7.648450E+003	0.000000E+000
I-133O	2.365500E+002	0.000000E+000
I-134E	8.589351E+003	0.000000E+000
I-134O	2.656500E+002	0.000000E+000
I-135E	7.127560E+003	0.000000E+000
I-135O	2.204400E+002	0.000000E+000
Xe-129m	1.637000E+001	0.000000E+000
Xe-131m	4.638000E+003	0.000000E+000
Xe-133	7.702000E+005	0.000000E+000
Xe-133m	2.549000E+004	0.000000E+000
Xe-135	2.691000E+005	0.000000E+000
Xe-135m	1.657000E+005	0.000000E+000
Xe-137	7.208000E+005	0.000000E+000
Xe-138	7.494000E+005	0.000000E+000
Rb-86	2.029000E-001	0.000000E+000
Rb-88	4.929000E+001	0.000000E+000
Rb-89	6.433000E+001	0.000000E+000
Cs-132	2.207000E-002	0.000000E+000
Cs-134	1.940000E+001	0.000000E+000
Cs-134m	4.708000E+000	0.000000E+000
Cs-136	5.136000E+000	0.000000E+000
Cs-137	6.861000E+000	0.000000E+000
Cs-138	9.134000E+001	0.000000E+000

Time = 1200.000000 Seconds  
ClockTime = 1.672000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.031709	0.000000	0.005531	0.037240
LPZ	0.006606	0.000000	0.001152	0.007758
ControlRoom	0.000162	0.000000	0.000555	0.000717

Isotope	Condenser	ControlRoom
Br-82E	4.317617E+001	4.203752E-006
Br-82O	1.335345E+000	1.300129E-007
Br-83E	5.517641E+002	5.372731E-005
Br-83O	1.706487E+001	1.661669E-006
Br-84E	1.128453E+003	1.098695E-004
Br-84O	3.490062E+001	3.398024E-006
Kr-83m	5.735494E+004	5.585058E-003
Kr-85	5.306250E+003	5.166270E-004
Kr-85m	1.436748E+005	1.398936E-002
Kr-87	2.547314E+005	2.480680E-002
Kr-88	3.981908E+005	3.877259E-002
Kr-89	6.729350E+003	6.587975E-004
I-128E	7.837572E+001	7.636106E-006
I-128O	2.423991E+000	2.361682E-007
I-130E	3.143186E+002	3.060340E-005
I-130O	9.721194E+000	9.464968E-007
I-131E	3.824446E+003	3.723562E-004
I-131O	1.182818E+002	1.151617E-005
I-132E	4.935871E+003	4.806271E-004
I-132O	1.526558E+002	1.486475E-005
I-133E	7.562910E+003	7.363501E-004
I-133O	2.339044E+002	2.277371E-005
I-134E	6.598420E+003	6.426469E-004
I-134O	2.040748E+002	1.987568E-005
I-135E	6.880304E+003	6.699095E-004
I-135O	2.127929E+002	2.071885E-005
Xe-129m	1.635001E+001	1.591872E-006
Xe-131m	4.633606E+003	4.511375E-004
Xe-133	7.686803E+005	7.484041E-002
Xe-133m	2.537467E+004	2.470542E-003
Xe-135	2.623171E+005	2.554053E-002
Xe-135m	6.695129E+004	6.525897E-003
Xe-137	1.912851E+004	1.870858E-003
Xe-138	2.803241E+005	2.732648E-002
Rb-86	2.027671E-001	1.974182E-008
Rb-88	2.251913E+001	2.194655E-006
Rb-89	2.614600E+001	2.548492E-006
Cs-132	2.203418E-002	2.145295E-009
Cs-134	1.939706E+001	1.888536E-006
Cs-134m	4.348044E+000	4.233762E-007
Cs-136	5.131532E+000	4.996165E-007
Cs-137	6.860041E+000	6.679072E-007
Cs-138	5.937799E+001	5.784271E-006

Time = 7200.000000 Seconds  
ClockTime = 5.007000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.110102	0.000000	0.032591	0.142693
LPZ	0.022938	0.000000	0.006790	0.029728
ControlRoom	0.002459	0.000000	0.015319	0.017778

Isotope	Condenser	ControlRoom
Br-82E	4.175718E+001	1.702148E-005
Br-82O	1.291459E+000	5.264376E-007
Br-83E	3.407244E+002	1.389051E-004
Br-83O	1.053787E+001	4.296034E-006
Br-84E	1.087439E+003	4.432731E-004
Br-84O	3.363212E+001	1.370948E-005
Kr-83m	3.079847E+004	1.255623E-002
Kr-85	5.302501E+003	2.161441E-003
Kr-85m	1.109401E+005	4.522507E-002
Kr-87	1.025011E+005	4.179168E-002
Kr-88	2.649286E+005	1.080030E-001
Kr-89	1.867085E-006	7.652725E-013
I-128E	4.895082E+000	1.996750E-006

I-128O	1.513943E-001	6.175514E-008
I-130E	2.860728E+002	1.166136E-004
I-130O	8.847612E+000	3.606607E-006
I-131E	3.798979E+003	1.548568E-003
I-131O	1.174942E+002	4.789384E-005
I-132E	2.971742E+003	1.211515E-003
I-132O	9.190953E+001	3.746953E-005
I-133E	7.149346E+003	2.914305E-003
I-133O	2.211138E+002	9.013314E-005
I-134E	1.765379E+003	7.198528E-004
I-134O	5.459934E+001	2.226349E-005
I-135E	5.766884E+003	2.350840E-003
I-135O	1.783572E+002	7.270638E-005
Xe-129m	1.625043E+001	6.624121E-006
Xe-131m	4.611697E+003	1.879853E-003
Xe-133	7.611267E+005	3.102563E-001
Xe-133m	2.480580E+004	1.011156E-002
Xe-135	2.308827E+005	9.411694E-002
Xe-135m	7.210096E+002	2.942359E-004
Xe-137	2.517753E-004	1.030970E-010
Xe-138	2.053026E+003	8.378974E-004
Rb-86	2.021041E-001	4.272789E-008
Rb-88	4.482452E-001	9.485867E-008
Rb-89	2.899768E-001	6.137453E-008
Cs-132	2.185592E-002	4.620682E-009
Cs-134	1.938236E+001	4.097724E-006
Cs-134m	2.921333E+000	6.176754E-007
Cs-136	5.109247E+000	1.080173E-006
Cs-137	6.855249E+000	1.449304E-006
Cs-138	6.893633E+000	1.458203E-006

Time = 28800.000000 Seconds  
ClockTime = 16.533000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.110102	0.000000	0.032591	0.142693
LPZ	0.034212	0.000000	0.015928	0.050140
ControlRoom	0.009028	0.000000	0.110937	0.119965

Isotope	Condenser	ControlRoom
Br-82E	3.702411E+001	2.113291E-005
Br-82O	1.145076E+000	6.535952E-007
Br-83E	6.008175E+001	3.429777E-005
Br-83O	1.858198E+000	1.060756E-006
Br-84E	9.517457E+002	5.432453E-004
Br-84O	2.943543E+001	1.680140E-005
Kr-83m	3.283816E+003	1.874638E-003
Kr-85	5.289028E+003	3.018888E-003
Kr-85m	4.373586E+004	2.496530E-002
Kr-87	3.867708E+003	2.208125E-003
Kr-88	6.110324E+004	3.488024E-002
I-128E	2.258615E-004	1.290073E-010
I-128O	6.985408E-006	3.989917E-012
I-130E	2.038261E+002	1.163432E-004
I-130O	6.303899E+000	3.598243E-006
I-131E	3.708692E+003	2.116862E-003
I-131O	1.147018E+002	6.546994E-005
I-132E	4.783449E+002	2.730657E-004
I-132O	1.479417E+001	8.445332E-006
I-133E	5.839088E+003	3.332899E-003
I-133O	1.805903E+002	1.030793E-004
I-134E	1.532748E+001	8.751550E-006
I-134O	4.740458E-001	2.706665E-007
I-135E	3.054515E+003	1.743542E-003
I-135O	9.446954E+001	5.392398E-005
Xe-129m	1.589695E+001	9.073723E-006
Xe-131m	4.533680E+003	2.587751E-003
Xe-133	7.345432E+005	4.192658E-001
Xe-133m	2.286143E+004	1.304899E-002
Xe-135	1.458224E+005	8.323561E-002
Xe-135m	5.940140E-005	3.394374E-011
Xe-138	4.221207E-005	2.412357E-011
Rb-86	1.997350E-001	3.902992E-008
Cs-132	2.122607E-002	4.147761E-009
Cs-134	1.932952E+001	3.777151E-006
Cs-134m	6.979350E-001	1.363959E-007
Cs-136	5.029821E+000	9.828703E-007

Cs-137 6.838025E+000 1.336208E-006  
Cs-138 2.963533E-003 5.794111E-010

Time = 86400.000000 Seconds  
ClockTime = 46.987000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.110102	0.000000	0.032591	0.142693
LPZ	0.038940	0.000000	0.024156	0.063096
ControlRoom	0.011382	0.000000	0.236347	0.247729

Isotope	Condenser	ControlRoom
Br-82E	2.686338E+001	6.690047E-006
Br-82O	8.308262E-001	2.069087E-007
Br-83E	5.874633E-001	1.463181E-007
Br-83O	1.816897E-002	4.525300E-009
Br-84E	6.670586E+002	1.661242E-004
Br-84O	2.063068E+001	5.137861E-006
Kr-83m	8.394179E+000	2.090791E-006
Kr-85	5.253265E+003	1.308261E-003
Kr-85m	3.654562E+003	9.101820E-004
Kr-87	6.195188E-001	1.543186E-007
Kr-88	1.222434E+003	3.044629E-004
I-130E	8.254325E+001	2.055686E-005
I-130O	2.552884E+000	6.357790E-007
I-131E	3.478279E+003	8.662236E-004
I-131O	1.075756E+002	2.679042E-005
I-132E	3.667369E+000	9.134285E-007
I-132O	1.134238E-001	2.825036E-008
I-133E	3.403206E+003	8.475380E-004
I-133O	1.052538E+002	2.621251E-005
I-134E	4.880809E-005	1.215905E-011
I-134O	1.509528E-006	3.760532E-013
I-135E	5.609770E+002	1.397105E-004
I-135O	1.734980E+001	4.320943E-006
Xe-129m	1.499147E+001	3.733444E-006
Xe-131m	4.332027E+003	1.078839E-003
Xe-133	6.681054E+005	1.663837E-001
Xe-133m	1.838951E+004	4.579706E-003
Xe-135	4.281989E+004	1.066410E-002
Rb-86	1.935522E-001	1.620905E-008
Cs-132	1.963379E-002	1.644236E-009
Cs-134	1.918932E+001	1.607011E-006
Cs-134m	1.533811E-002	1.284619E-009
Cs-136	4.824002E+000	4.039868E-007
Cs-137	6.792305E+000	5.688221E-007

Time = 259200.000000 Seconds  
ClockTime = 136.676000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.110102	0.000000	0.032591	0.142693
LPZ	0.038940	0.000000	0.024156	0.063096
ControlRoom	0.011486	0.000000	0.248949	0.260435

Isotope	Condenser	ControlRoom
Br-82E	1.046826E+001	3.014866E-016
Br-82O	3.237606E-001	9.324326E-018
Br-84E	2.343037E+002	6.747967E-015
Br-84O	7.246504E+000	2.087000E-016
Kr-85	5.251407E+003	1.512397E-013
Kr-85m	2.175274E+000	6.265156E-017
Kr-88	9.986061E-003	2.876261E-019
I-130E	5.592848E+000	1.610769E-016
I-130O	1.729747E-001	4.981758E-018
I-131E	2.927395E+003	8.430861E-014
I-131O	9.053798E+001	2.607483E-015
I-132E	1.686091E-006	4.856528E-023
I-133E	6.873905E+002	1.979701E-014
I-133O	2.125950E+001	6.122785E-016
I-135E	3.545187E+000	1.021053E-016
I-135O	1.096450E-001	3.157895E-018
Xe-129m	1.282687E+001	3.694123E-016
Xe-131m	3.855652E+003	1.110423E-013
Xe-133	5.128776E+005	1.477082E-011

Xe-133m	9.764658E+003	2.812221E-013
Xe-135	1.106102E+003	3.185655E-014
Rb-86	1.796868E-001	4.607590E-038
Cs-132	1.585235E-002	4.064919E-039
Cs-134	1.915409E+001	4.911554E-036
Cs-136	4.341684E+000	1.113310E-036
Cs-137	6.791450E+000	1.741486E-036

**Attachment 5**

**LOCA Dose Analysis with Revised Source Terms  
XC-Q1111-98017, Revision 1**

<b>DESIGN ENGINEERING CALCULATION</b> <b>GRAND GULF NUCLEAR STATION</b> <b>UNIT ONE</b>		<b>CALC NO.:</b> <u>XC-Q1111-98017</u> <b>REVISION:</b> <u>1</u> <b>PAGE</b> <u>i</u> of <u>iii</u>	
<b>TITLE:</b> <u>LOCA Dose Analysis with Revised Source Terms</u>			
<b>REVISION STATUS</b> <input type="checkbox"/> Pending <input checked="" type="checkbox"/> Final <input type="checkbox"/> Canceled	<b>SUPERSEDED BY:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<b>SUPERSEDES:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<input checked="" type="checkbox"/> Safety Related <input type="checkbox"/> Non Safety Related <input type="checkbox"/> Appendix B
<b>ORG CODE:</b> <u>NPE-Safety Analysis</u>		<b>CALC TYPE</b> <u>NUCSAFE</u>	
<b>KEYWORD(S):</b> <u>ACCIDENT</u> <u>DOSE</u>		<b>AFFECTED COMPONENT(S):</b> (add sheets as needed) <u>N/A</u>	
<b>SYSTEM(s):</b> <u>N/A</u>		<b>COMMENT(s):</b> <u>N/A</u>	
<b>SOFTWARE USED FOR CALCULATION:</b>			
Software Manufacturer: <u>GGNS Safety Analysis</u>		Software Name/ Program No: <u>TRANSACT</u>	
		Version/ Release No: <u>2.0</u>	
<b>REVIEW AND APPROVAL</b>			
<b>PREPARED BY:</b> <u>G.E. Broadbent</u> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/16/00</u>	
<b>CHECKED BY:</b> <u>Marvin Morris</u> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/18/00</u>	
<b>REVIEWED BY:</b> <u>M. D. Withrow</u> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Supervisor Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/19/00</u>	
<b>APPROVED BY:</b> <u>M. D. Withrow</u> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Responsible Manager Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/19/00</u>	

**REVISION STATUS SHEET****ENGINEERING CALCULATION REVISION SUMMARY**

<b><u>REVISION</u></b>	<b><u>DATE</u></b>	<b><u>DESCRIPTION</u></b>
0	8/24/99	Issue for use
1	10/19/00	Updated for revised control room and offsite $\chi/Q$ values in response to CR-GGN-2000-0847, reduced control room time-steps in response to CR-GGN-2000-0737, considers CRFAS HEPA filters and recent Staff guidance in RG 1.183.

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**SHEET REVISION STATUS**

<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>
i	1	11	1	23	1
ii	1	12	1	24	1
iii	1	13	1	25	1
1	1	14	1	26	1
2	1	15	1	27	1
3	1	16	1	28	1
4	1	17	1	29	1
5	1	18	1	30	1
6	1	19	1		
7	1	20	1		
8	1	21	1		
9	1	22	1		
10	1				

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**APPENDIX/ATTACHMENT REVISION STATUS**

<b><u>APPENDIX NO.</u></b>	<b><u>REVISION</u></b>	<b><u>ATTACHMENT NO.</u></b>	<b><u>REVISION</u></b>
A	0	1	1
B	0	2	1
C	0	3	1
D	0	4	1
E	deleted	5	1
		6	1
		7	1
		8	1

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## CALCULATION SHEET

Sheet 1 Cont On 2Calculation No. XC-Q1111-98017Rev. 1Prepared By S.E.B. Date 10/16/00 Checked By MAM Date 10/18/00**1.0 PURPOSE**

This calculation evaluates the offsite and control room radiological doses for the DBA LOCA with the revised source term reported in NUREG-1465 [1]. The previous calculation [2] applied the TID-14844 methodology while the revised source term makes the following major changes:

- timed source term releases,
- revised iodine chemical form distribution,
- updated release fractions, and
- six additional nuclide groups over the 2 groups (halogens and nobles) used in TID.

In addition to these source term changes, this calculation is similar to the previous LOCA analysis with the following significant model modifications:

- MSIV leakage rates are increased from a total leakage rate of 100 scfh to 250 scfh with a maximum of 100 scfh for a steamline
- Containment leak rate is increased from 0.35% per day to 0.385% per day
- MSIV and containment leakage are assumed to decrease by a factor of 2 after 96 hours
- Secondary containment drawdown time is increased from 2 minutes to 3 minutes
- No significant releases are assumed for the first 121 seconds associated with the coolant release duration
- Control room inleakage is increased from 590 cfm to 1200 cfm
- SGTS bypass flow reduced from 50 cfm to 1 cfm due to recent design changes to the SGTS filter trains
- Control Room Fresh Air charcoal beds and the automatic isolation of the control room intakes are not credited
- Control room and offsite  $\chi/Q$  values have been revised based on current meteorological data
- The two unsprayed containment volumes are combined into a single volume for model simplification
- Suppression pool scrubbing is not credited
- Spray removal lambdas have been re-calculated based on NRC guidance
- Aerosol and elemental iodine removal mechanisms from NRC research are applied.
- Containment thermal-hydraulics have been revised consistent with the proposed radiological scenario.

Revision 1 of this calculation makes the following changes to Revision 0 of this calculation.

- Updated control room and offsite  $\chi/Q$  values are applied in response to CR-GGN-2000-0847.
- Reduced control room time-steps are applied in response to CR-GGN-2000-0737.
- Credit is taken for the CRFAS system and associated HEPA filters.



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## CALCULATION SHEET

Sheet 2 Cont On 3Calculation No. XC-Q1111-98017Rev. 1Prepared By ISE.S. Date 10/16/00 Checked By MM Date 10/18/00

- Two potentially-limiting cases for the assumed single failure are evaluated instead of one bounding case with multiple failures.
- An additional 10% of ESF liquid leakage is assumed to accommodate any future ESF system modifications.
- Control room inleakage increased from 1200 cfm to 2000 cfm.
- Instead of a continuous mixing between the drywell and lower containment region after 2 hours, these regions are instantaneously mixed at two hours with no further communication.
- The recent NRC final AST guidance is applied.
- Confirmatory calculations with the NRC's RADTRAD code and the most recent version of a new GGNS dose code are also performed.



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## CALCULATION SHEET

Sheet 3 Cont On 4Calculation No. XC-Q1111-98017Rev. 1Prepared By A.S.B. Date 10/16/00 Checked By MAM Date 10/18/00**2.0 PLANT DESCRIPTION**

GGNS is a BWR/6 plant with a Mark-III pressure suppression containment. The reactor vessel is located within a drywell which is connected to the containment via three rows of horizontal vents submerged in the suppression pool. Steam released in a line break is directed through these vents and quenched before release into the containment. A small bypass flow may leak through the drywell structure, bypassing the suppression pool, and enter the containment atmosphere without quenching. This drywell bypass flow is controlled by the drywell  $A/\sqrt{k}$  value of  $0.9 \text{ ft}^2$ , which would permit a flow of 35,000 cfm to bypass the suppression pool at a differential pressure of 3 psi.

Containment leakage is directed into the secondary containment which completely encloses the primary containment and is composed of the Auxiliary Building and the Enclosure Building. All ECCS pumps are located in the Auxiliary Building, into which all ECCS leakage would be released. On a LOCA signal, the secondary containment is drawn down to a 0.25-inch w.g. negative pressure within minutes of a LOCA to prevent any exfiltration. The Enclosure Building recirculation fans draw air from the Auxiliary Building into the Enclosure Building and recirculate air within the Enclosure Building. The Enclosure Building atmosphere is then processed by the Standby Gas Treatment System (SGTS) such that all secondary containment leakage is passed through the SGTS charcoal/filter trains before release to the SGTS outlet on the roof of the Auxiliary Building. The SGTS charcoal adsorbers remove 99% of the elemental and organic iodine while the HEPA filters remove 99% of the particulate source terms. An exfiltration rate of 1 cfm from the secondary containment from unidentified sources is also assumed.

Leakage past the MSIVs is released into the Turbine Building until the MSIV Leakage Control System (MSIV LCS) is manually initiated after 20 minutes. MSIV LCS will depressurize the steamlines and direct this activity into the Auxiliary Building. The preferred outboard system depressurizes the piping volume downstream of the outboard MSIV while the inboard system depressurizes the volume between the isolated MSIVs.

To protect the containment from over-pressurization, the RHR system is automatically directed to spray suppression pool water into the containment through spargers located in the upper elevations of the containment dome after a 10-minute time delay. The GGNS Severe Accident Procedures also call for initiation of containment spray to reduce containment airborne radiation levels.

The GGNS control room is located in the Control Building. The control room HVAC system normally draws 2000 cfm of outside air from an intake on the roof of the Control Building. Although this intake is automatically isolated on a LOCA signal or high radiation detected in the intake, manual isolation is assumed in this calculation. Upon isolation, the Control Room Fresh Air Supply (CRFAS) system is automatically initiated and recirculates 4000 cfm of control room atmosphere through a charcoal filter train before release back into the control room atmosphere. The CRFAS charcoal adsorbers remove 95% of the elemental and organic iodine while the HEPA filters remove 99% of the particulate source terms. The impact of the charcoal adsorbers is also neglected in this calculation. The control room can remain in this isolated mode for longer than 72 hours. For fresh air after the isolation period, the CRFAS system can



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## CALCULATION SHEET

Sheet 4 Cont On 5Calculation No. XC-Q1111-98017Rev. 1Prepared By J.E.B. Date 10/16/00 Checked By MAM Date 10/18/00

be aligned to draw 4000 cfm from the Safeguard Switchgear and Battery Room Ventilation intakes, passing this flow through the CRFAS HEPA filter train before discharge into the control room HVAC system.

The GGNS containment layout is illustrated in Figure 2-1.

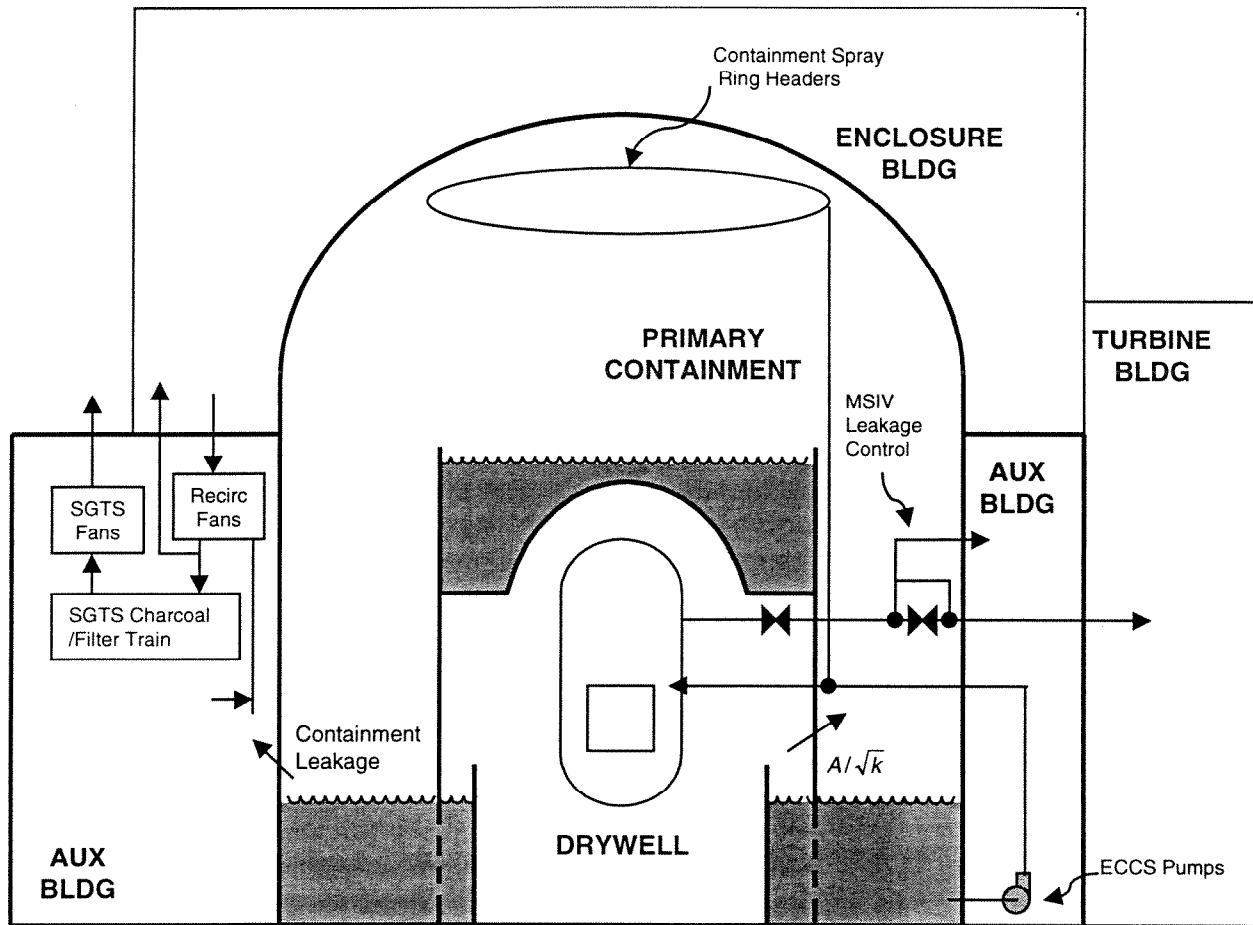


Figure 2-1 GGNS Containment Illustration



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## CALCULATION SHEET

Sheet 5 Cont On 6

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Prepared By B.E.B. Date 10/16/00 Checked By MAM Date 10/18/00

### 3.0 GIVEN

#### 3.1 Core Source Terms and Releases

The GGNS core source terms have been developed with the ORIGEN2 code in Calculation XC-Q1111-95009 [4] based on End of Cycle conditions. The Ci/MW multipliers developed in this calculation are applied to generate the core source terms at the onset of the event. These multipliers are identical or larger than those applied by RADTRAD in NUREG/CR-6604 [26]. A reactor power level of 3910 MW will be considered based on 102% [12] of the rated 3833 MW defined in Technical Specification 1.1 [13].

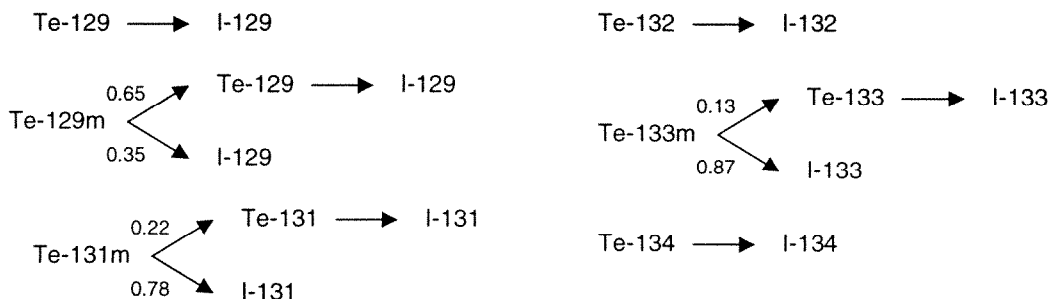
#### 3.2 Suppression Pool Iodine Re-evolution

The impact of any postulated iodine re-evolution from the suppression pool is assessed in Calculation XC-Q1111-98014 [6] and is shown to be negligible. As such, this analysis will not consider any impact to the offsite or control room doses due to iodine re-evolution from the suppression pool.

#### 3.3 Dose Conversion Factors

The effective dose conversion factors for the TEDE and thyroid calculations are based on FGR 11 [10] and 12 [11]. In most cases, these DCFs are taken directly from FGR 11 and 12; however, in some cases, the DCFs applied in this calculation include the DCFs of the isotope's decay products consistent with RADTRAD as noted in NUREG/CR-6604 [26] Table 1.4.3.3-2. These dose conversion factors are reported in the TRANSACT output.

Since, unlike RADTRAD, TRANSACT does not model the production of daughter products, the production of certain significant daughter products will also be considered. Specifically, the decay of the Tellurium isotopes into Iodine isotopes will be modeled by increasing the dose conversion factors of the tellurium isotopes to also account for the iodine decay products. For each modeled Tellurium isotope, the dose conversion factor is calculated assuming exposure to its daughter products up to Iodine isotopes, including any intermediate Tellurium isotopes. The decay chains illustrated below are calculated in Attachment 1 for Te-129, Te-129m, Te-131m, Te-132, Te-133m, and Te-134.



#### 3.4 Atmospheric Dispersion Factors

The GGNS dispersion factors have been revised with the latest five years of hourly site meteorological data. The control room  $\chi/Q$  values were determined for the various GGNS release points in Calculation XC-Q1111-98011 [7] with the ARCON96 code. The offsite  $\chi/Q$



values were determined in Calculation XC-Q1C84-92009 [8] with the PAVAN (1992) code. The control room and offsite dispersion factors are listed below and bound those values in the associated calculations. Considering the two potential control room intake points (intake vent on room or SSBVR intakes), the control room  $\chi/Q_s$  are based on the highest value to either of these points. The release and receptor points in the control room calculation are illustrated in Figure 3-1.

Table 3-1 GGNS Dispersion Factors ( $s/m^3$ )

	EAB	LPZ	CONTROL ROOM		
			Sec. Cont. Exfiltration to CR Intake	SGTS Vent to CR Intake	Turbine Bldg. Vent to CR Intake
0 to 2 hours	6.0E-04	1.25E-04	7.5E-03	8.0E-04	8.0E-04
2 to 8 hours		6.0E-05		5.0E-04	
8 to 24 hours		4.5E-05		2.5E-04	
1 to 4 days		2.0E-05		1.6E-04	
4 to 30 days		7.0E-06		1.3E-04	

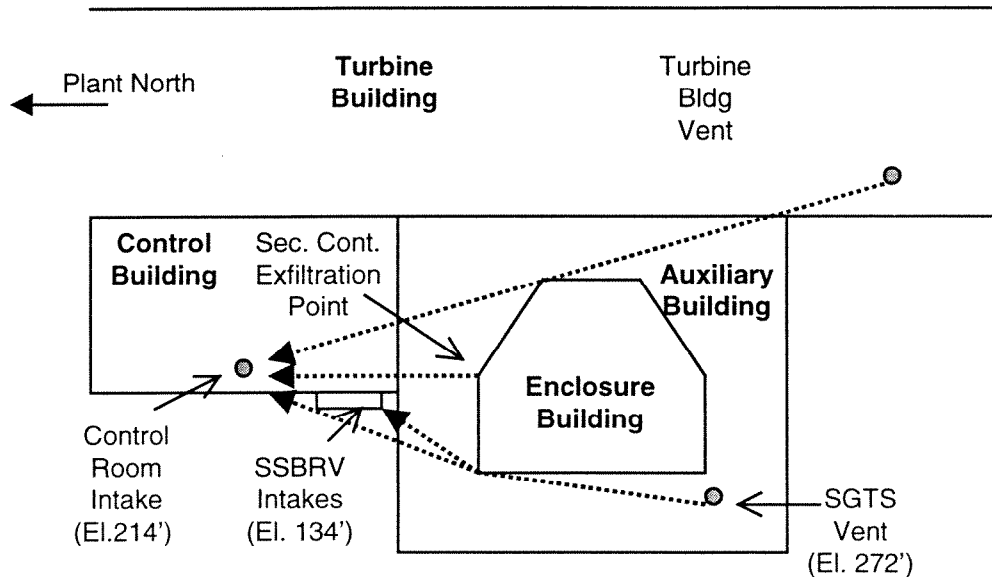


Figure 3-1 Control Room Dispersion Paths

### 3.5 Computer Code Methodology

The TRANSACT (Rev. 2) code will be used to calculate the offsite and control room doses. As described in CPDP X-98/0002 [9], this code has recently been revised to:

- calculate the TEDE dose as the sum of the whole body and inhalation doses,
- provide more complete output of nuclide file inputs,
- consider up to 200 different isotopes, and
- consider up to 9 different nuclide groups.



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### 3.6 Breathing Rate and Occupancy Factors

The breathing rates applied in the calculation of the inhalation dose are consistent with those reported in Sections 4.1.3 and 4.2.6 of RG 1.183 [49].

**Table 3-2 Breathing Rates (m<sup>3</sup>/s)**

Time Period	EAB	LPZ	Control Room
0 to 8 hours	3.5E-4	3.5E-4	3.5E-4
8 to 24 hours	3.5E-4	1.8E-4	3.5E-4
1 to 30 days	3.5E-4	2.3E-4	3.5E-4

The control room occupancy factors are consistent with those reported in Section 4.2.6 of RG 1.183 and are tabulated below.

**Table 3-3 Control Room Occupancy Factors**

Time Period	Occupancy Factor
0 to 24 hours	1.0
1 to 4 days	0.6
4 to 30 days	0.4

### 3.7 SGTS Model

A SGTS flow of 4000 cfm (per TSPS 376 and 378 in Supplement 6 to Reference 16) is applied with an additional 1 cfm bypassing the charcoal filter train from unidentified sources. The charcoal bed is tested to a 99% removal efficiency for both elemental and organic iodine, while the HEPA filter is tested to remove 99% of the particulates. With these inputs, the effective SGTS efficiency can be calculated to be 98.975% based on a 4001-cfm flow rate.

$$eff = 1.0 - \frac{(4000 \text{ cfm}) \cdot (1 - 0.99) + (1 \text{ cfm}) \cdot (1 - 0.00)}{4001 \text{ cfm}} = 0.98975$$

Previous analyses have applied a bypass leakage rate of 50 cfm based on the potential for flow bypassing the charcoal/filter unit through small openings in the fan control vane arm. Design changes have been implemented to completely seal these openings such that this bypass path no longer exists.

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## 4.0 ASSUMPTIONS

### 4.1 Control Room Fresh Air System

The charcoal beds in the Control Room Fresh Air system and the automatic isolation of the control room intake are not credited in this calculation. Operation of the CRFAS fans and HEPA filters are credited. Manual operator action to isolate the intake and start the CRFAS is assumed after 20 minutes in this calculation consistent with ANSI/ANS-58.8-1994 [41], which was endorsed by the NRC in draft Regulatory Guide DG-1052 [42]. As such, the normal flow of 2000 cfm [30] of outside air is assumed from the intake on the roof of the control building for the first 20 minutes. An additional 10 cfm will be assumed due to opening doors consistent with the guidance in Regulatory Guide 1.78 [19] for a total inleakage rate of 2010 cfm.

### 4.2 Control Room Inleakage

As described in Section 9.4.1.2 of the GGNS SAR, the GGNS control room is normally maintained at a slightly positive pressure to the surrounding areas from the 2000 cfm fresh air makeup. In the isolated mode, there is no intake from outside air sources and the control room pressure would eventually reach that of the surrounding areas. Although the GGNS Operating License Condition #38 [13] reports a maximum allowable control room inleakage of 590 cfm, a value of 2000 cfm will be applied in this analysis. An additional 10 cfm will be assumed due to opening doors consistent with the guidance in Regulatory Guide 1.78 for a total inleakage rate of 2010 cfm.

### 4.3 Containment Leakage Rate

The maximum allowable GGNS primary containment leakage rate,  $L_a$ , is 0.437% per day per Technical Specification 1.1 [13]. As described in SAR Table 6.2-1, this value is based on 0.35% per day from the containment and an additional 100 scfh through the steamlines.

$$\frac{\frac{0.0035}{\text{day}} * 1.4\text{E}6 \text{ ft}^3 + 100 \frac{\text{ft}^3}{\text{hr}} * 24 \frac{\text{hr}}{\text{day}}}{1.67\text{E}6 \text{ ft}^3} = 0.437 \frac{\%}{\text{day}}$$

Instead of the 0.35% per day containment leak rate, this calculation assumes a value of 0.385% per day.

### 4.4 MSIV Leakage Rate

Technical Specification 3.6.1.3 reports the maximum allowable total leakage rate through all four steamlines as 100 scfh. This calculation will assume a total leakage of 250 scfh with no more than 100 scfh from a single steamline. With these assumptions, the maximum allowable primary containment leakage rate,  $L_a$ , becomes 0.682% per day.

$$\frac{\frac{0.00385}{\text{day}} * 1.4\text{E}6 \text{ ft}^3 + 250 \frac{\text{ft}^3}{\text{hr}} * 24 \frac{\text{hr}}{\text{day}}}{1.67\text{E}6 \text{ ft}^3} = 0.682 \frac{\%}{\text{day}}$$



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Checked By MAM

Date 10/18/00

#### 4.5 Source Term Release

The gap and in-vessel release phases are only considered in this calculation per RG 1.183. The radiological consequences of a 121-second [15] coolant release phase are negligible based on the results of the GGNS rebaselining [14] and GGNS calculations [17]. Also, the containment is not routinely purged per Technical Specification 3.6.1.3, which permits purging only for pressure control, ALARA, air quality considerations for personnel entry, and for surveillances or special testing. The containment will be completely isolated prior to the onset of the gap release with the exception of the RHR and LPCS test return isolation valves which have 144-second stroke times per TRM Table TR3.6.1.3-1. No significant activity transport is expected through these lines during their isolation since they (i) are normally closed, (ii) isolate penetrations that terminate below the suppression pool surface, and (iii) communicate with closed systems outside containment.

The core source terms are assumed to be released at a constant rate such that the release is completed by the end of the appropriate release period. The release is modeled with the TRANSACT command "RELEASE FRACTION" which releases a certain percentage of the core inventory per hour. These inventories are calculated below based on the release fractions and timing in Table 3.12 of NUREG-1465.

		GAP RELEASE		IN-VESSEL RELEASE	
		Duration (hr) = 0.5		Duration (hr) = 1.5	
Group	Nuclide Group	Fraction	Fraction/Hr	Fraction	Fraction/Hr
1	Noble Gases	0.05	1.000E-01	0.95	6.333E-01
2	Halogens	0.05	1.000E-01	0.25	1.667E-01
3	Alkali Metals	0.05	1.000E-01	0.20	1.333E-01
4	Tellurium Group	0.00	0.000E+00	0.05	3.333E-02
5	Barium, Strontium	0.00	0.000E+00	0.02	1.333E-02
6	Noble Metals	0.00	0.000E+00	0.0025	1.667E-03
7	Lanthanides	0.00	0.000E+00	0.0002	1.333E-04
8	Cerium Group	0.00	0.000E+00	0.0005	3.333E-04

TRANSACT models this release somewhat different than the RADTRAD code. TRANSACT considers the release based on the core inventory at the time of the start of the release while RADTRAD is more realistic and considers the core decay of the applicable isotope during the release phase. Appendix A demonstrates this difference for two iodine isotopes.



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## CALCULATION SHEET

Sheet 10 Cont On 11Calculation No. XC-Q1111-98017Rev. 1Prepared By S.E.B. Date 10/16/00 Checked By MAM Date 10/18/00**5.0 ACCIDENT SCENARIO AND CHRONOLOGY**-121 seconds to 0 minutes

A design basis double-ended guillotine break occurs in a recirculation suction line, releasing reactor coolant to the drywell. No ECCS injection occurs and the vessel level drops below the core exposing the reactor fuel. The BWROG has demonstrated that, under this scenario, the fuel rods would not fail for 121 seconds for BWRs [15].

The offsite and control room consequences of the reactor coolant activity are assumed to be negligible relative to the proposed acceptance criteria and are consequently ignored for this calculation. The reactor source terms are decayed for 121 seconds and the airborne calculation begins with the onset of the gap release. By 121 seconds, the containment is isolated and the MSIVs are closed, leaking at their maximum allowable rates.

0 minutes to 1 minute

The reactor core continues steaming, pressurizing the drywell and driving drywell atmosphere out the MSIVs and into containment via the drywell bypass. The gap release begins by releasing the gap source terms into the GGNS drywell at a constant rate over the 30-minute release period. The control room and offsite dose points begin to accumulate dose from the MSIV and containment leakage. The control room intake is not isolated on the LOCA signal and the normal flow of outside air is drawn into the control room.

1 minute to 8 minutes

The SGTS system achieves a 0.25-inch vacuum in the secondary containment and draws 4000 cfm of secondary containment atmosphere through a HEPA filter and charcoal bed before release to the environment.

8 minutes to 18 minutes

ESF leakage is assumed to begin, leaking contaminated suppression pool water into secondary containment.

18 minutes to 30 minutes

Drywell leakage past the MSIVs continues to enter the turbine building until 18 minutes when the MSIV leakage control system is manually initiated, directing all MSIV leakage into secondary containment. Also, at 18 minutes, the control room intake is manually isolated. The CRFAS fans recycle 4000 cfm of control room atmosphere through HEPA filters.

30 minutes to 2 hours

The in-vessel release begins at 30 minutes by releasing the in-vessel source terms into the GGNS drywell at a constant rate over the 90-minute release period. Automatic initiation of containment spray is also assumed based on the expected high containment pressure.

2 hours to 3 days

The source term release from the vessel is terminated at 2 hours with the actuation of ECCS, which results in large amounts of steam evolution and large flows out of the drywell into the



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## CALCULATION SHEET

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Prepared By J.S.B. Date 10/16/00 Checked By MAW Date 10/18/00

containment. The drywell and lower containment region become well-mixed at 2 hours. Releases to the environment continue for 30 days through the SGTS vent.

3 days to 30 days

The CRFAS system is aligned to direct outside air into the control room through the HEPA filters. This mode is assumed for the duration of the analysis.



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## 6.0 MODEL DEVELOPMENT

This analysis considers the following three pathways through which source terms can be released from the containment.

- ESF liquid leakage outside of containment
- MSIV leakage
- Containment airborne leakage

These pathways are consistent with the original GGNS SER [16] and no additional pathways have been identified. These three pathways are analyzed separately below. NRC Information Notice 91-56 was evaluated in Engineering Report GGNS-93-0002 [5] and concluded that there are no credible leak paths at GGNS capable of releasing activity to the Condensate Storage Tank.

Two limiting single failures are evaluated in this calculation. In Case 1, the worst-case MSIV is assumed to fail to close, such that drywell source terms leaking past the sole isolated MSIV on this steamline leak directly into the turbine building until MSIV leakage control is manually actuated. This case leads to a large short-term release and significant impacts on the control room which is assumed to be unisolated during this release period. In Case 2, the worst case electrical division is assumed to fail which results in the minimum suppression pool heat rejection capability and unavailability of the preferred outboard MSIV leakage control system. This case leads to a larger intermediate term release since all the MSIV leakage is directed immediately into the secondary containment and since containment pressure drops off less rapidly. These cases are compared in more detail below.

**Table 6-1 Analyzed Cases**

	<b>Case 1 (MSIV Failure)</b>	<b>Case 2 (DG Failure)</b>
Short-term MSIV Leakage	Inboard MSIV fails open with outboard MSIV leaking at the Tech Spec maximum. Drywell atmosphere is released through the steamline with the failed MSIV to the turbine building and environment.	All MSIVs close and are leaking at the Tech Spec maximum. Volume between MSIVs ensures no release to turbine building or environment.
MSIV LCS	The preferred outboard system is actuated drawing MSIV leakage from the space downstream of the outboard MSIVs. A holdup volume between MSIVs exists in the three steamlines where both MSIVs isolated.	Electrical division to the preferred outboard system fails and inboard system is actuated drawing MSIV leakage from the space between the MSIVs. No holdup volume between the MSIVs exists.
Containment Response	With maximum ECCS providing containment cooling, the containment pressure decays rapidly and drops to half the design after 1 day.	With only one electrical division providing containment cooling (minimum ECCS), the containment pressure decays less rapidly and drops to half the design after 4 days.



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## CALCULATION SHEET

Sheet 13 Cont On 14Calculation No. XC-Q1111-98017Rev. 1Prepared By H.E.B. Date 10/14/00 Checked By MAM Date 10/18/00**6.1 ESF Liquid Leakage****6.1.1 Source Terms**

All of the released iodine is conservatively assumed to be dissolved in the suppression pool upon its release consistent with Section 5.1 of RG 1.183 Appendix A. With Reg. Guide 1.3 source terms, this inventory represented 50% of the core iodine; however, with NUREG-1465 source terms, this inventory is 30% of the core iodine. Although Section 3.5 of NUREG-1465 predicts that 3% of the elemental iodine would be converted to the organic species, which is not soluble in water, the organic species is conservatively neglected in the ESF liquid leakage calculation and all 30% of the core iodine is assumed to be dissolved in the suppression pool water. This iodine is released to the drywell atmosphere based on the release fractions and timing reported in Tables 1 and 4 of RG 1.183 and is assumed to be immediately dissolved in the suppression pool.

Only halogens are modeled in this analysis. All other species are not soluble (such as the noble gases) or are in the particulate chemical form and are not anticipated to become airborne upon release consistent with Section 5 of RG 1.183 Appendix A.

**6.1.2 Volumes**

The smallest suppression pool inventory expected during the LOCA will be assumed. Considering the suppression pool makeup from the upper containment pool reported in Calculation MC-Q1E30-90112 [25], the modeled suppression pool volume can be calculated to be 170,954 ft<sup>3</sup>. This volume is consistent with that applied in the suppression pool pH analysis in Reference 6.

Description	Volume (ft <sup>3</sup> )
Min suppression pool volume	135,291
Upper containment pool minimum volume	36,163
less ECCS suction strainer volume	- 500
<b>Total</b>	<b>170,954</b>

No credit is taken for holdup in the Auxiliary Building where the ECCS systems are located. As discussed in Section 2, source terms in the Auxiliary Building are drawn into the Enclosure Building by the Enclosure Building recirculation fans where they are held before release to the environment through the SGT system. Only the enclosure building is conservatively credited for secondary containment and a 50% mixing efficiency is assumed. The effective volume of secondary containment is therefore 300,000 ft<sup>3</sup> based on the calculation in Appendix B.

**6.1.3 Flows**

As described in Section 5, the ESF systems are assumed to be unavailable for mitigating the core damage for approximately 2 hours after the accident. However, the containment spray system could potentially be automatically initiated to spray the containment within 10 minutes of the accident if high containment pressure is sensed. As such, this calculation conservatively assumes that the ESF system leakage begins at 10 minutes after the LOCA (or 8 minutes after the beginning of the gap release).



Calculation No. XC-Q1111-98017

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All potential contaminated liquid leak paths from the containment have been identified and quantified in Calculation XC-Q1J11-96007 [24] for inclusion in the LOCA dose analysis. This calculation concluded that a total liquid leakage rate from the full complement of ESF systems in their recirculation phase and containment isolation valves was 2.32E5 cc/hr. This leakage rate corresponds to 1.02 gpm based on 3785.4 cc/gal or 0.1364 cfm based on 0.13368 ft<sup>3</sup>/gal. An additional 10% is added to this value to accommodate any future system modifications for a total leakage rate of 0.15 cfm. Consistent with SRP 15.6.5, Appendix B, the gross failure of a passive component is not assumed since an ESF atmosphere filtration system is provided by SGTS and is unaffected by the relaxations in this calculation.

When the ESF leakage begins 10 minutes after the accident, leakage is directed from the suppression pool to secondary containment, where the ECCS pumps and piping are located. At this time, secondary containment will have been established with the SGTS directing 4001 cfm of secondary containment atmosphere through the SGTS charcoal-filter unit as described in Section 3.7.

#### 6.1.4 Removal Mechanisms

Since the suppression pool temperature will not exceed its design temperature of 185 °F during the accident, ten percent of the iodine in this leakage is assumed to become airborne consistent with SRP 15.6.5, Appendix B. Natural removal mechanisms in the secondary containment are conservatively neglected. Consistent with Section 5.6 of RG 1.183 Appendix A, the chemical species of these airborne source terms is assumed to be 97% elemental and 3% organic.

#### 6.1.5 Release Points

The release point for all source terms associated with the ESF liquid leakage is the SGTS vent.

#### 6.1.6 Model

The ESF liquid leakage model is illustrated below. The ESF liquid leakage is evaluated with a separate TRANSACT run, which is reported in Attachment 2. Confirmatory runs with RADTRAD and RAPTOR are also included in this attachment.

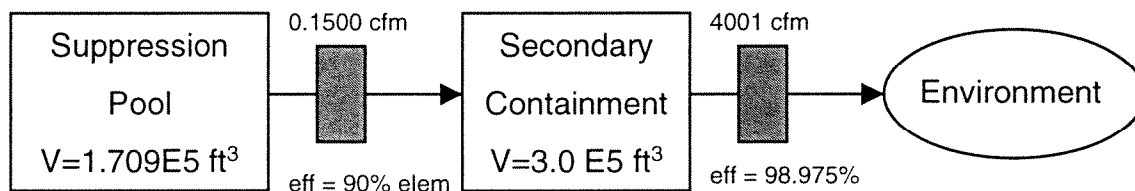


Figure 6-1 ESF Liquid Leakage Model

#### 6.1.7 Results

The radiological doses for this transport path are reported below and repeated in Section 7. The EAB results are reported based on exposure for the full 30-day evaluation period for benchmark purposes. The sliding 2-hour window calculation are presented in Section 7.



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Table 6-2 ESF Liquid Leakage Dose Results

Location	Dose (Rem TEDE)		
	TRANSACT	RADTRAD BENCHMARK	RAPTOR BENCHMARK
EAB	3.209E+00	3.1859E+00	3.192E+00
LPZ	5.264E-02	5.2089E-02	5.221E-02
Control Room	4.598E-01	4.6077E-01	4.618E-01

## 6.2 MSIV Leakage

### 6.2.1 Source Terms

As discussed in Section 3.1, the GGNS core source terms have been developed with the ORIGEN methodology. These source terms are released into the drywell based on the release fractions and timing reported in Tables 1 and 4 of RG 1.183.

### 6.2.2 Volumes

For Case 1, which assumes one of the eight GGNS MSIVs is assumed to fail open, leakage past the inboard MSIVs on the other three steamlines is directed into a volume between the closed inboard and outboard MSIVs. This volume is calculated to be 433.7 ft<sup>3</sup> based on the 144.562 ft<sup>3</sup> per line calculated in Reference 20. For Case 2, which assumes all MSIVs isolate, the volume of all four steamlines between the isolated MSIVs would be 578.2 ft<sup>3</sup>.

### 6.2.3 Flows

As discussed in Section 4.4, GGNS Technical Specification 3.6.1.3.8 limits the total MSIV leakage through all four main steamlines to 100 scfh when tested at pressures greater than or equal to P<sub>a</sub>, which is 11.5 psig per the associated Technical Specification Basis. This calculation will apply a total leak rate of 250 scfh with the worst-case MSIV leaking no more than 100 scfh.

The drywell atmosphere will not be at standard conditions after the reactor blowdown. Since TRANSACT applies a flow rate from one volume to another without regard to thermal-hydraulic conditions, this MSIV leakage rate must be converted to a flow at the drywell conditions. Since the local temperatures at the MSIVs may be significantly higher than the drywell average temperature due to the steamline insulation, the temperature of this MSIV leakage is assumed to be 500 °F at the onset of the accident consistent with the current TID LOCA dose analysis. As expected, this temperature is somewhat less than the saturation temperature at the rated steam dome pressure of 1040 psia. Considering the well-insulated steamline, this temperature will conservatively be assumed for the MSIV leakage for the duration of the accident.

As calculated below at the tested pressure of 11.5 psig, the 100-scfh MSIV leakage rate would result in a nominal flow of 103.6 ft<sup>3</sup>/hr at the steamline conditions<sup>1</sup>. A lower drywell pressure

<sup>1</sup> The standard cubic foot is defined at 60 °F and 14.696 psia [40].



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would result in a lower differential pressure across the MSIV and, consequently, a lower leakage rate.

$$100 \text{ standard } \frac{\text{ft}^3}{\text{hr}} * \frac{459.67 \text{ }^\circ\text{R} + 500 \text{ }^\circ\text{F}}{459.67 \text{ }^\circ\text{R} + 60 \text{ }^\circ\text{F}} * \frac{14.696 \text{ psi}}{14.696 \text{ psi} + 11.5 \text{ psi}} = 103.6 \frac{\text{ft}^3}{\text{hr}} \text{ at steamline conditions}$$

The GGNS containment analysis in ABD-4 [21] demonstrates that, although the drywell pressure reaches a peak of ~23 psig during the early phases of the blowdown (~1 second), drywell pressure drops significantly below 11.5 psig after the blowdown ends (~100 seconds).

The worst-case post-LOCA drywell pressurization transient would occur in the case of minimum ECCS<sup>2</sup>, in which the containment pressure is expected to reach 11.5 psig after approximately 5 hours (per Figure 15 of Reference 21). As discussed later (in Section 6.3), the drywell is not assumed to be leak-tight and suppression pool scrubbing of flows out of the drywell is ignored. At this time, the core will be covered by the available ECCS complement minimizing steam generation and rejecting decay heat to the pool via sensible energy in the ECCS flow out the break. Considering the small steam generation and the relatively low flow of the single drywell purge compressor that would be available (1000 cfm per Technical Specification 3.6.3.3), no significant drywell pressurization (over the containment) is anticipated at this time and the leak rate calculated above (based on 11.5 psig) is considered to remain appropriate.

On these bases, a conservatively high drywell pressure of 11.5 psig will be assumed at the onset of the accident resulting in a leak rate of 103.6 ft<sup>3</sup>/hr (100 scfh) for the worst-case steamline. Considering the drywell volume of 2.7E5 ft<sup>3</sup>, this leakage represents a rate of 0.9209 %/day. The remaining steamlines will be modeled with a leak rate of 155.4 ft<sup>3</sup>/hr (150 scfh) or 1.381 %/day.

Consistent with Section 6.2 of RG. 1.183 Appendix A, this leak rate may be reduced by a factor of 2 after a period of time. The calculated design-basis containment pressure at 24 hours with maximum ECCS (Case A) is approximately 18 psia (3.3 psig) per Figure 15 of ABD-4. Considering that the containment and MSIV leak rates are based on the containment P<sub>a</sub> of 11.5 psig, a 50% reduction in the containment and MSIV leak rates is warranted at 24 hours with maximum ECCS. With minimum ECCS, the containment pressure reduces at a slower rate due to the reduced heat rejection capability and reaches 19 psia only after 4 days. As such, the containment and MSIV leak rates are assumed to decrease by a factor of 2 after 24 hours for Case 1 (with maximum ECCS) and 96 hours for Case 2 (with minimum ECCS).

At a drywell pressure of 5.75 psig (or half the 11.5 psig original pressure) and conservatively assuming no cooldown of the steamlines, the 125 scfh would become 165.9 ft<sup>3</sup>/hr as calculated below. Considering the drywell volume of 2.7E5 ft<sup>3</sup>, this leakage represents a rate of 1.475 %/day.

<sup>2</sup> Although this assumption represents a second active failure (of an electrical division) in addition to the MSIV failure already taken, this failure will be conservatively assumed to avoid analysis of a separate case. If maximum ECCS were assumed, containment pressure does not approach 11.5 psig.



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$$125 \text{ standard } \frac{\text{ft}^3}{\text{hr}} * \frac{459.67 \text{ }^\circ\text{R} + 500 \text{ }^\circ\text{F}}{459.67 \text{ }^\circ\text{R} + 60 \text{ }^\circ\text{F}} * \frac{14.696 \text{ psi}}{14.696 \text{ psi} + 5.75 \text{ psi}} = 165.9 \frac{\text{ft}^3}{\text{hr}}$$

For the first 20 minutes, all leakage past the outboard MSIVs is assumed released to the environment without consideration of plateout or additional decay in the steamlines. No credit is taken for the seismically-qualified portion of the steamline past the outboard MSIVs or the main steam shutoff valves. In the steamline with the failed MSIV, all leakage past the closed MSIV is directed to the environment. In the other three steamlines, the closed inboard and outboard MSIVs create a volume to delay the source term release down the steamline. Consistent with Reg. Guide 1.96 [22], the MSIV Leakage Control System (LCS) is assumed to be actuated 20 minutes after the accident (18 minutes after gap release begins).

The GGNS MSIV LCS is composed of independent inboard and outboard systems. The inboard system evacuates the volume between the inboard and outboard MSIVs while the outboard system draws from the volume downstream of the outboard MSIV. Since the outboard MSIV LCS is the preferred system, this calculation will assume that the outboard MSIV LCS is actuated for Case 1 with the piping between the isolated MSIVs on three steamlines acting as a holdup volume for the duration of the accident. In Case 2, electrical power to the outboard system is assumed to be unavailable and the inboard system is actuated, releasing the source terms from the volume between the isolated MSIVs on the three steamlines. The three isolated steamlines are modeled with a separate node with a volume equal to the volume between the isolated MSIVs for three steamlines.

The contaminated drywell atmosphere is modeled with plug flow between the isolated MSIVs<sup>3</sup>. Considering the maximum MSIV leakage of 100 scfh (103.6 ft<sup>3</sup>/hr) for a single steamline and the holdup volume of 144.562 ft<sup>3</sup>, a period of 1.4 hours would be required to completely fill this holdup volume based on the average fluid velocity. For fully developed laminar flow, the maximum fluid velocity is twice the average such that contaminated steam may reach the outboard MSIV as early as 0.70 hours. Since MSIV LCS is assumed to be actuated at 18 minutes (0.3 hours), no source terms from this holdup volume are assumed released to the environment during the 18-minute period before MSIV LCS is operating.

In addition to the leakage through the MSIVs, the drywell will also continue to leak source terms into the containment over this 18 minute period. This calculation will assume a leakage rate of 3000 cfm for this drywell bypass flow consistent with the GGNS MELCOR results reported in the Perry SER [33] (p. 6).

## 6.2.4 Removal Mechanisms

The only removal mechanisms credited in this model are decay and natural removal mechanisms in the drywell. These natural removal mechanisms are calculated in Section 6.3.4.

<sup>3</sup> Although the Perry SER (p. 8) [33] and the draft regulatory guidance require a well-mixed model to address settling in the main steamline, a plug flow model is considered appropriate for this application since the GGNS model is only demonstrating that the contaminated steam does not leak past the outboard MSIV in this 18-minute period and does not credit any aerosol removal mechanisms in the steamline.



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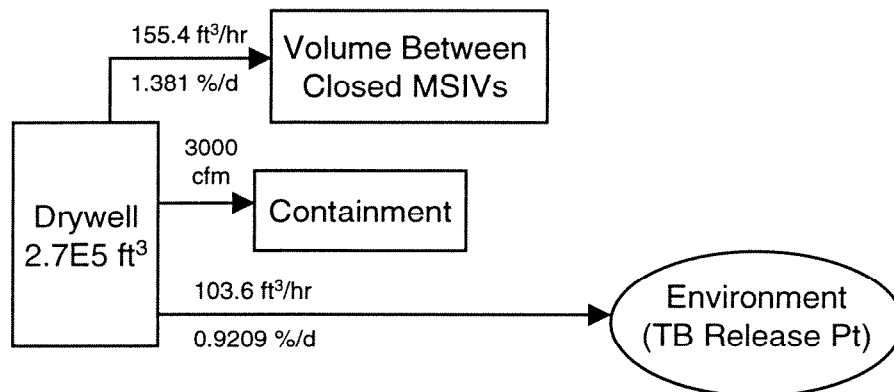
All leakage past the outboard MSIV is assumed released to the environment without consideration of plateout or additional holdup in the steamlines or turbine building.

## 6.2.5 Release Points

All MSIV leakage past the outboard MSIV is assumed to enter the turbine building and be released via the turbine building vent. When MSIV LCS is initiated, the MSIV leakage is directed to the secondary containment and the SGTS release point is applied as discussed in the airborne analysis reported in Section 6.3.

## 6.2.6 Model

The TRANSACT model applied for this leakage path is illustrated below. Since TRANSACT allows only a single release point (and associated  $\chi/Q$ ), the impact of MSIV leakage through the turbine building is evaluated with a separate TRANSACT run as documented in Attachment 3. Confirmatory runs with RADTRAD and RAPTOR are also included in this attachment. This model is executed for 30 days even though the release ends at 18 minutes so that the long-term dose impacts of the source terms already in the control room at 18 minutes can be fully evaluated. The impact of MSIV leakage after 18 minutes is considered in the containment airborne leakage analysis in Section 6.3.



**Figure 6-2 MSIV Leakage Model (0 – 18 minutes)**

For Case 2, in which all MSIVs isolate, there are no releases to the turbine building before actuation of MSIV LCS and the impact of MSIV leakage is evaluated in the airborne model in Section 6.3.



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## 6.2.7 Results

The radiological doses for this transport path are reported below and repeated in Section 7. The sliding 2-hour window calculation are presented in Section 7.

**Table 6-3 MSIV Leakage Dose Results**

Location	Dose (Rem TEDE)		
	TRANSACT	RADTRAD BENCHMARK	RAPTOR BENCHMARK
EAB	2.637E+00	2.5607E+00	2.622E+00
LPZ	5.493E-01	5.3337E-01	5.462E-01
Control Room	1.175E+00	1.1783E+00	1.177E+00

## 6.3 Containment Airborne Leakage

### 6.3.1 Source Terms

As discussed in Section 3.1, the GGNS core source terms have been developed with the ORIGEN methodology. These source terms are released into the drywell based on the release fractions and timing reported in Tables 1 and 4 of RG 1.183.

### 6.3.2 Volumes

The following volumes are applied in the LOCA airborne calculation.

**Table 6-4 LOCA Volumes**

Number in Model	Name in Model	Description	Volume (ft <sup>3</sup> )	Reference
1	Drywell	Drywell	2.70E+05	Appendix B
2	Sprayed	Sprayed Region of the Containment above the Operating Floor at El. 208'10"	8.40E+05	Appendix B
3	Unsprayd	Unsprayed Region of the Containment	5.60E+05	Appendix B
4	Sec_Cont	Secondary Containment (Enclosure Building Only - with 50% mixing)	3.00E+05	Appendix B
5	MSIV_Vol	Volume between the inboard and outboard MSIVs of: - 3 steamlines - 4 steamlines	4.337E+02 5.782E+02	Section 6.2.2
N/A	Control Room	Control Room	2.53E+05	31



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### 6.3.3 Flows

#### From Drywell Volume Into Steamlines (MSIV Leakage)

As discussed in Section 6.2, a total MSIV leak rate of 250 scfh is modeled. For Case 1 (MSIV fails open) 150-scfh of drywell atmosphere is directed to a volume between the isolated MSIVs while 100 scfh leaks past the single isolated MSIV (on the steamline with the failed MSIV) to the environment. After 18 minutes, the preferred outboard MSIV Leakage Control System is manually actuated drawing from downstream of the MSIVs. This system then directs 100 scfh of drywell atmosphere from the steamline with the open MSIV and 150 scfh from downstream of the outboard MSIVs of the three isolated steamlines for the duration of the accident. A holdup volume equivalent to the volume between the inboard and outboard MSIVs on three steamlines is credited in this case. The offsite or control room impact of MSIV leakage before the initiation of MSIV LCS is calculated in Section 6.2. Since this case credits the maximum ECCS, the MSIV leak rate is decreased by a factor of 2 after 24 hours.

For Case 2, all MSIVs are assumed to isolate and a holdup volume equivalent to the volume between the inboard and outboard MSIVs on four steamlines is credited in this case. After 18 minutes, the inboard MSIV LCS system is actuated since the electrical supply to the preferred outboard system is assumed to be failed. The activity in these four volumes is assumed to be immediately released to the secondary containment and any leakage past the inboard MSIV is immediately directed into the secondary containment. No holdup volume exists for this case and 250 scfh of drywell atmosphere is directed into the secondary containment after 18 minutes for the duration of the accident. As reported in Section 6.2, the offsite or control room impact of MSIV leakage before the initiation of MSIV LCS is shown to be zero due to the volume between the MSIVs, the low leak rate and the quick actuation of MSIVLCS. Since this case credits the minimum ECCS, the MSIV leak rate is decreased by a factor of 2 after 4 days.

#### From Drywell Volume Into Containment (Suppression Pool Bypass)

Consistent with the GGNS MELCOR results reported in the Perry SER (p. 6) and Section 3.7 of Appendix A to R.G. 1.183, a pool bypass flow of 3000 cfm will be applied at the onset of the analysis, which implies that (i) there is insufficient vaporization to reject all the core decay heat per Calculation XC-Q1J11-97006 [28] and (ii) there is no suppression pool scrubbing per the GGNS design value of  $A/\sqrt{k}$ . This bypass flow will be assumed until the release ends after two hours.

When ECCS is injected onto the hot core, the core debris are quickly quenched and significant amounts of steam are vaporized in a very short period. At this time, the drywell and unsprayed portion of the containment will be assumed to become instantly well-mixed without credit of suppression pool scrubbing. This assumption of a non-mechanistic homogenous mixing of the drywell and containment volumes is consistent with the GGNS SER [16] (Table 15-2) which effectively used this approach by assuming the source term was instantly released to both the drywell and containment weighted by the volumes of each node.

Once mixed, the drywell and containment volumes are no longer modeled to communicate. The only flow that could potentially lead to some communication would be operation of the combustible gas control compressors which direct a small flow (~1000 cfm) from the unsprayed



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containment region to the drywell with a corresponding leakage from the drywell into the containment. This flow has been conservatively neglected in this calculation.

From Unsprayed and Sprayed Containment Volumes to Environment

By the time the gap release begins 121 seconds after the break, the containment is completely isolated and a containment leak rate of 0.385% per day is assumed, representing a 10% increase over the current allowable leak rate. Since secondary containment is not completely drawn down for another minute, a one minute positive pressure period is assumed in which all containment leakage is assumed to immediately leak to the environment. The control room  $\chi/Q$  value applied for this leakage is based on leakage from the nearest point on the metal siding of the enclosure building to the control room intake consistent with the position in AECM-84/0051 [50].

From Unsprayed and Sprayed Containment Volumes to Secondary Containment

A containment leak rate of 0.385% per day is assumed for the first day for Case 1 (maximum ECCS) and 4 days for Case 2 (minimum ECCS). This leak rate is based on the calculated peak containment pressure,  $P_a$ , of 11.5 psig. After 24 hours for Case 1 and 96 hours for Case 2, the containment pressure has dropped to below 5.75 psig based on the design basis containment pressure transient reported in Figure 15 of ABD-4 and the containment leak rate drops to 0.1925% per day consistent with Section 3.7 of RG 1.183 Appendix A [49].

From Unsprayed Containment Volume to Sprayed Containment

Consistent with the guidance in SRP 6.5.2 [57], a minimum exchange rate of 2 unsprayed volumes per hour is assumed with the sprayed containment volume. This flow is therefore 4800% per day. Considering the unsprayed volume of  $5.60E5 \text{ ft}^3$ , this flow can be calculated to be 18,667 cfm. When sprays are actuated, this mixing rate increases to 70,000 cfm ( $1.8E4\%$  per day) as described in Appendix D.

From Sprayed Containment Volume to Unsprayed Containment

An equivalent flow (in cfm) to that flow directed into the sprayed volume from the unsprayed volume is returned to the unsprayed volume. Without containment spray, the 18,667-cfm flow can be calculated to be 3200% per day based on the sprayed volume of  $8.40E5 \text{ ft}^3$ . With containment spray, the 70,000-cfm flow can be calculated to be  $1.2E4\%$  per day.

From Secondary Containment

The only flow from secondary containment is via the SGT system which draws 4000 cfm through a charcoal-filter unit with an additional 1 cfm bypass. The effective efficiency of this unit for all chemical species is calculated in Section 3.7 as 98.975% with a flow of 4001 cfm.

From MSIV Holdup Volume

For Case 1, this volume represents the volume between the inboard and outboard MSIVs of three steamlines since an MSIV is assumed to fail to close, while for Case 2, four steamlines are applied since all the MSIVs isolate. As discussed in Section 6.2.3, no source term inventory from the holdup volume between the isolated MSIVs can leak into the turbine building over the 18 minutes that MSIV LCS is not operating. At 18 minutes, the inboard MSIV LCS directs the source terms in this volume to secondary containment for Case 2. For Case 1, the outboard

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MSIV LCS directs leakage past the outboard MSIV into secondary containment, creating a holdup volume between the isolated MSIVs in 3 steamlines for the duration of the accident. The flow out of this volume is maintained identical to the flow into this volume and is assumed to decrease after 24 and 96 hours in Cases 1 and 2 respectively.

#### 6.3.4 Removal Mechanisms

As discussed in Section 2, the GGNS containment design provides for a number of different mechanisms for removing source terms from the atmosphere including:

- suppression pool scrubbing
- containment spray
- natural removal mechanisms

Although the previous LOCA analysis credits the impact of suppression pool scrubbing, the scenario proposed in this calculation does not result in large flows (with entrained source terms) being directed through the suppression pool. Consequently, suppression pool scrubbing is not credited in this calculation. As discussed below, containment spray and natural removal mechanisms are credited in this calculation.

#### Containment Spray

The GGNS containment spray is automatically initiated with all of the following signals:

- LOCA signal (high drywell pressure or low-low-low reactor water level),
- high containment pressure, and
- a 11.44-minute delay timer (per Tech Spec Table 3.3.6.3-1) has timed-out.

Considering the initial blowdown will cause a large fraction of the drywell air to enter the containment and the 3000 cfm of drywell atmosphere that bypasses the suppression pool, it is anticipated that a high containment pressure signal will be generated and containment spray will be entering the containment atmosphere within 30 minutes of the onset of the accident consistent with the existing LOCA analysis. Containment spray is modeled to begin at 32 minutes after the onset of the accident or 30 minutes after the gap release begins. The initial spray removal constants are calculated in Appendix C as  $9.51 \text{ hr}^{-1}$  for aerosols and  $20 \text{ hr}^{-1}$  for elemental iodine.

As discussed in SRP Section 6.5.2, the maximum decontamination factors for aerosols and elemental iodine are 50 and 200, respectively. After the aerosol mass<sup>4</sup> has been depleted by a factor of 50, the spray removal lambda is assumed to decrease by a factor of 10. After the elemental iodine activity has been depleted by a factor of 200, the elemental iodine removal is assumed to end completely. Section 6.3.7 reports when these DFs were determined to occur. As discussed in Section 3.3 of RG 1.183 Appendix A [49], these DFs are based on the inventories at the end of the in-vessel release phase. Containment spray is assumed to end at 24 hours and the aerosol removal by containment spray is terminated.

<sup>4</sup> The aerosol mass is assumed to be proportional to the total aerosol activity.



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Natural Removal Mechanisms

Natural removal mechanisms for elemental iodine and aerosols will be applied in this calculation using NRC correlations. Elemental iodine removal is credited in the drywell and containment volumes. Aerosol removal is credited only in the drywell since containment spray will adversely impact the particle size distribution in the containment.

Elemental Iodine

Elemental iodine is removed by deposition to the walls in the drywell and containment. As reported in Section 5.1.2 of NUREG/CR-0009 [27], this process is driven by the temperature differences between the surfaces and the atmosphere. The removal factor is reported in NUREG/CR-0009 by the following equation.

$$\lambda = \frac{k_g A}{V}$$

where:

- $\lambda$  = removal rate constant due to surface deposition,
- $k_g$  = average mass transfer coefficient (0.137 cm/s),
- $A$  = surface area for wall deposition, and
- $V$  = volume of contained gas.

This formula is also reported in Standard Review Plan 6.5.2 for calculating the total elemental iodine removal capability. These removal constants are applied until a DF of 200 has been obtained as discussed above for containment spray. Using the wall areas and volumes developed in Appendix B, the removal rate constants are given below.

**Table 6-5 Elemental Iodine Removal Factors**

Node	Volume (ft <sup>3</sup> )	Wall Area (ft <sup>2</sup> )	Removal factor (hr <sup>-1</sup> )
Drywell	2.700E+05	1.445E+04	8.660E-01
Sprayed Containment	8.40E+05	3.542E+04	6.823E-01
Unsprayed Containment	5.60E+05	3.779E+04	1.092E+00
Volume between isolated MSIVs	433.7	816	3.044E+01

Aerosol Removal Mechanisms

The aerosol removal mechanisms are modeled with a first-order removal factor consistent with those supplied with RADTRAD in Table 2.2.2.1-3 of NUREG/CR-6604. The conservative 10% lambda values are applied to conservatively consider the lowest possible removal efficiencies and are consistent with Section 3.2 of RG 1.183 Appendix A [49]. These values are assumed constant over a given period and are given by the following equation.

$$\lambda = A \cdot e^{\frac{-B}{Power(MW_{th})}}$$

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Table 6-6 Aerosol Natural Removal Factors

Time Period	Phase	A	B	Lambda (hr <sup>-1</sup> ) based on 3910 MW <sub>th</sub>
0-0.5h	Gap	1.285	2119	7.474E-01
0.5-2h	Gap	1.161	2274	6.490E-01
0.5-2h	Early In-vessel	0.520	2173	2.983E-01
2-5h	Gap + Early In-vessel	1.551	1507	1.055E+00
5-8.33h	Gap + Early In-vessel	0.836	1051	6.390E-01
8.33-12h	Gap + Early In-vessel	0.780	1316	5.571E-01
12-19.4h	Gap + Early In-vessel	0.778	1548	5.236E-01
19.4-24h	Gap + Early In-vessel	0.780	1686	5.068E-01

Since TRANSACT does not track the release phase of the activity, the lower value of the gap and early in-vessel removal factors will be applied for the 0.5 to 2 hour period.

#### 6.3.5 Release Points

When secondary containment is established, all source terms released via containment leakage are released via the SGTS vent on the roof of the Auxiliary Building. Until this time (*i.e.*, for the first 60 seconds of gap release), source terms are assumed to be released from the Enclosure Building's closest point to the control room intakes (See Figure 3-1).

#### 6.3.6 Model

The containment airborne models for Cases 1 and 2 are illustrated in Attachment 4 which is based on the time at which the gap release begins. These figures also includes both the MSIV leakage and ESF leakage transport pathways.

#### 6.3.7 Results

The radiological doses for the containment airborne pathway are reported in the pertinent parts of the TRANSACT output files for Cases 1 and 2 are listed in Attachments 5 and 6 respectively. As discussed in Section 6.3.4, the elemental iodine removal is neglected after a DF of 200 is reached. Based on the elemental iodine lambda of 0.866 hr<sup>-1</sup> in the drywell, a DF of 200 would be reached in 6.1 hours without any leakage or decay. This calculation will conservatively model this plateout to end at 7 hours. The output in Attachments 5 and 6 indicate that the 2-hour elemental iodine activity of 1.120E6 Ci has only reduced to 9.157E3 Ci at 7 hours representing a DF of 122. In the containment, the maximum elemental iodine DF was determined to have been reached at 2.8 hours as shown in the table below.

Also, the particulate spray lambda is reduced by a factor of 10 when the aerosol activity is reduced by a DF of 50. This DF was determined to have been reached at 3 hours in the containment. In both cases, the total activity in both regions of the containment is considered since, if only the activity in the sprayed region of the containment was considered, a longer period of the higher lambdas would be applicable. The following table reports the elemental and particulate halogen inventory in the drywell, sprayed and unsprayed containment volumes at 2, 2.8 and 3 hours.



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**Table 6-7 Halogen Activities at 2, 3.1 and 3.2 Hours**

	Sprayed Containment	Unsprayed Containment	Total Containment Activity
<b>2 Hours</b>			
Elemental	8.769E+04	2.322E+06	2.410E+06
Particulate	5.555E+06	6.499E+07	7.055E+07
<b>2.8 Hours</b>			
Elemental	3.727E+03	9.469E+03	1.32E+04
<b>3 Hours</b>			
Particulate	6.021E+05	8.478E+05	1.450E+06

The results of the airborne calculations are summarized below in addition to the results of confirmatory RAPTOR calculations.

**Table 6-8 Airborne Leakage Dose Results**

Location	Dose (Rem TEDE)	
	TRANSACT	RAPTOR BENCHMARK
<b>CASE 1</b>		
EAB	5.957E+01	5.832E+01
LPZ	3.999 E+00	3.883E+00
Control Room	2.012E+00	2.062E+00
<b>CASE 2</b>		
EAB	7.312E+01	7.160E+01
LPZ	5.263E+00	5.118E+00
Control Room	2.945E+00	3.014E+00



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## CALCULATION SHEET

Sheet 26 Cont On 27Calculation No. XC-Q1111-98017Rev. 1Prepared By S.E.B. Date 10/10/00 Checked By MAM Date 10/10/00**6.4 Control Room**

Although the current configuration of the GGNS control room HVAC system would automatically isolate the control room intakes on a LOCA signal (high drywell pressure or low-low water level), this analysis assumes that the control room intakes are manually isolated at 20 minutes after the initiation of the LOCA. The normal intake rate of 2000 cfm [30] is assumed to be drawn from the intake duct on the roof of the Control Building for this 20-minute period in addition to 10 cfm from ingress/egress consistent with the guidance in Regulatory Guide 1.78 [19]. As described in Section 9.4.1.2 of the GGNS SAR, the normal 2000-cfm flow is sufficient to maintain the envelope at a slightly positive pressure to the surrounding areas.

Once the intakes are isolated, the control room atmosphere is recirculated through the control room air conditioning units while 4000 cfm of this flow is normally drawn into the Control Room Fresh Air Supply (CRFAS) system and is passed through a charcoal/filter bed before being discharged back into the HVAC system and returned to the control room. The CRFAS system charcoal beds are neglected in this calculation. An inleakage rate of 2010 cfm is assumed during this isolation period as discussed in Section 4.2.

SAR Section 9.4.1.5 reports that, in this isolated mode, fresh air makeup would not be needed for at least 72 hours. Consequently, after 3 days, the CFRAS is assumed to be re-aligned to draw fresh air from the intakes on the west side of the control building drawing the normal flow of 4000 cfm through HEPA filters and into the control room envelope. Due to this system re-alignment, the recirculation flow ends at this time. This configuration is assumed for the remainder of the accident duration.

The control room free volume is  $2.53E5 \text{ ft}^3$  based on Reference 31. Although this volume considers the entire airtight boundary including the control cabinet area above the control room, the primary control room on El. 166' represents over 85% of this volume. Consequently, a Murphy-Campe Geometry Factor generated from this total volume is conservative and leads to an underestimate of this geometry factor.

The GGNS control room is separated from the Auxiliary Building atmosphere by 5 feet of concrete (3 feet for the control building wall [46] and 3 feet for the Auxiliary Building wall [47]). The side walls and roof of the control room are 2 feet thick concrete [46,48]. Considering this shielding, the contribution to the control room dose due to shine from the Aux Bldg atmosphere and release plume is neglected.



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## 7.0 RESULTS

The radiological doses for the three release pathways have been determined in the previous sections. The total offsite and control room doses would be the sum of these three calculated doses. A sliding two-hour EAB TEDE dose is evaluated in Attachment 7. The total GGNS LOCA doses are summarized in Table 7-1. These results meet the RG 1.183 acceptance criteria of 25 rem TEDE offsite and 5 rem TEDE in the control room. Attachment 8 contains two cumulative RAPTOR runs that confirm these results.

Table 7-1 Summary of TRANSACT Results

		TEDE (Rem)	
		Case 1 (MSIV OPEN)	Case 2 (DG FAILURE)
<b>EAB</b>	<b>TOTAL</b>	<b>8.779E+00</b>	<b>1.312E+01</b>
		(start @ 2 hrs)	(start @ 1.5 hrs)
<b>LPZ</b>	ESF Liq. Leakage	5.264E-02	5.264E-02
	MSIV Leakage (0-18 min)	5.493E-01	0.000E+00
	Containment Leakage	3.999E+00	5.263E+00
	<b>TOTAL</b>	<b>4.601E+00</b>	<b>5.316E+00</b>
<b>Control Room</b>	ESF Liq. Leakage	4.598E-01	4.598E-01
	MSIV Leakage (0-18 min)	1.175E+00	0.000E+00
	Containment Leakage	2.012E+00	2.945E+00
	<b>TOTAL</b>	<b>3.647E+00</b>	<b>3.405E+00</b>

The MSIV failure leads to the highest control room dose while the failure of the electrical division leads to the largest offsite doses. This deviation can be explained by recognizing that a substantial portion of the limiting (Case 1) control room dose is from the unfiltered MSIV leakage that occurs for the first 20 minutes. During this time, the control room is unisolated and has not yet actuated the CRFAS system. After isolation, the impact of these residual source terms is significant, adding approximately 1 rem to the control room dose.

The doses at offsite locations for Case 2 is driven by the impact of MSIV leakage drawn directly into the secondary containment by the inboard MSIVLCS without the mitigating effect of a holdup volume. The higher leakage rates for four days also leads to higher doses in Case 2.

The 2-hour GGNS EAB dose was found to peak at approximately 3.5 hours (representing a sliding 2-hour window from 1.5 to 3.5 hours). These results are illustrated in Figure 7-1 below. Table 11 of the NRC's rebaselining study in SECY-98-154 reported a worst-case GGNS TEDE dose starting at 2.2 hours. The difference is likely due to the lower drywell bypass flow applied in this calculation, leading to the higher drywell source term concentrations, and larger, earlier releases from the higher MSIV leakage.



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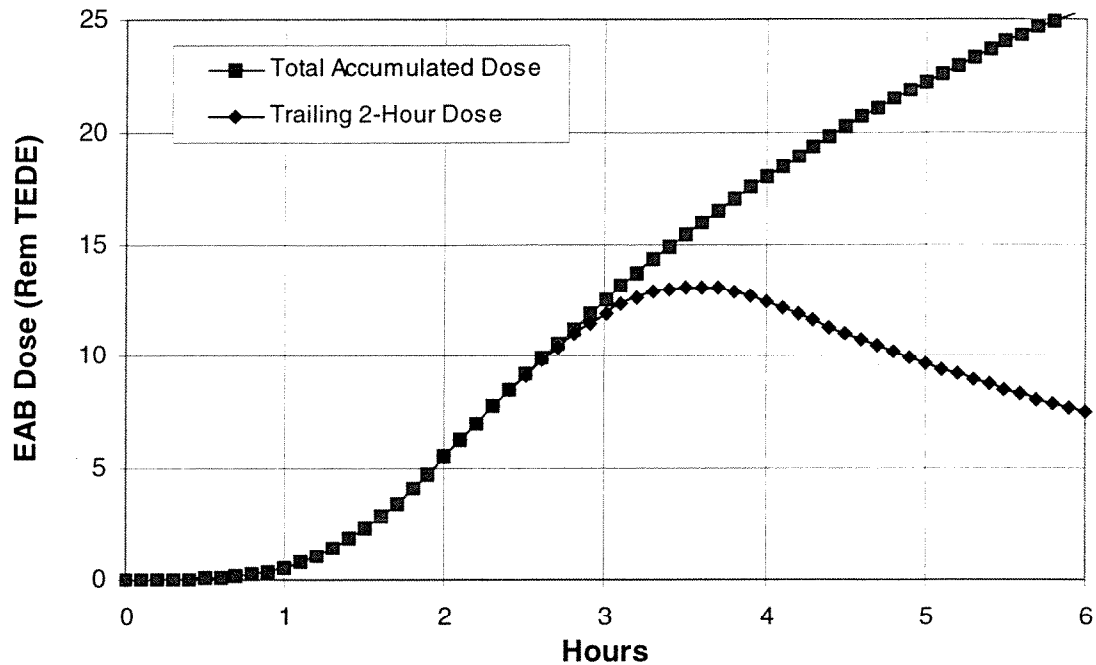


Figure 7-1 Case 2 EAB TEDE Dose Characteristics



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Calculation No. XC-Q1111-98017

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Prepared By B.E.B.

Date 10/16/00

Checked By MAN

Date 10/18/00

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# CALCULATION SHEET

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Calculation No. XC-Q1111-98017

Rev. 1

Prepared By J.E.B. Date 10/16/00 Checked By M.A.M. Date 10/19/00

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## APPENDIX A

### TRANSACT/RADTRAD RELEASE COMPARISON

The TRANSACT code will only model a constant release rate from the core, denoted in terms of Curies per hour. These source terms are decayed only after release when they enter the corresponding node. However, RADTRAD models this release more explicitly by considering decay in the core during the release period. These two approaches are illustrated below.




Based on an activity balance, the governing equations become:

$$\text{RADTRAD: } \frac{dA}{dt} = Xe^{-\lambda t} - \lambda A \Rightarrow A(t) = X \cdot t \cdot e^{-\lambda t} + A_0 e^{-\lambda t}$$

$$\text{TRANSACT: } \frac{dA}{dt} = X - \lambda A \Rightarrow A(t) = \frac{X}{\lambda} \cdot (1 - e^{-\lambda t}) + A_0 e^{-\lambda t}$$

The TRANSACT assumption of a constant release rate is relatively accurate for isotopes with half-lives significantly longer than the release period; however, the drywell activity of isotopes with very short half-lives will be over-estimated. In one of the two examples presented below the TRANSACT approach overestimates the source term inventory by ~25%.

Reactor Power (MW)=	3910		
	<b>I-131</b>	<b>I-132</b>	
RADTRAD Production (Ci/MW)	2.581E+04	3.792E+04	per NUREG/CR-6604, Table 1.4.3.2-3
Core Inventory	1.01E+08	1.48E+08	
RADTRAD Half-Life (s)	6.94656E+05	8.28000E+03	per NUREG/CR-6604, Table 1.4.3.2-3
Decay Constant (1/hr)	3.59E-03	3.01E-01	
<b>GAP RELEASE</b>			
Release Fraction	5%	5%	
Release Duration (Hrs)	0.5	0.5	
Release Rate, X (Ci/hr)	1.01E+07	1.48E+07	
Node Activity at 30 min (Ci)			
with RADTRAD method	5.0368E+06	6.3764E+06	
with TRANSACT method	5.0413E+06	6.8819E+06	
<b>IN-VESSEL RELEASE</b>			
Release Fraction	25%	25%	
Release Duration (Hrs)	1.5	1.5	
Release Rate, X (Ci/hr)	1.68E+07	2.13E+07	
Node Activity at 2 hrs (Ci)			
with RADTRAD method	3.0058E+07	2.4345E+07	 ~25% difference
with TRANSACT method	3.0131E+07	3.0028E+07	

As a result, the 1.5-hour in-vessel release phase will be re-initialized after each 30 minutes to more accurately model decay of the core inventory.

## APPENDIX B VOLUME/AREA CALCULATIONS

### Drywell

#### Volume

The GGNS drywell volume of 270,000 ft<sup>3</sup> is applied in this calculation per ABD-4 [21] consistent with the GGNS containment thermal-hydraulic analysis.

#### Wall Surface Area

Considering the 36'6"-radius [34] of the drywell cylinder and the 63-foot height above the suppression pool [34], the area of the outer drywell wall is calculated to be 14,448 ft<sup>2</sup>.

### Sprayed Volume

#### Volume

Although in some parts of the containment, the containment spray would fall directly to the suppression pool, the refueling floor (grating) at El. 208'10" would affect a large fraction of the containment spray. As such, the only containment volume credited with spray removal is that area above the refueling floor. The total volume of this area considers the cylindrical volume below the containment spring line at El. 237'9" [34] and the hemispherical dome with a 62-ft radius [34]. This volume is calculated below to be 8.484E5 ft<sup>3</sup>.

$$V = \text{Hemisphere} + \text{Cylinder} = \frac{\frac{4}{3}\pi r^3}{2} + H\pi r^2$$

$$= \frac{\frac{4}{3}\pi(62 \text{ ft})^3}{2} + (237'9" - 208'10")\pi(62 \text{ ft})^2 = 8.4836\text{E}5 \text{ ft}^3$$

If 1% of the relatively open volume is taken up by equipment, the net volume is 8.399E5 ft<sup>3</sup> which is consistent with the 8.394E5 ft<sup>3</sup> value applied on Page 24 of Bechtel Calculation 5.3.25 [35]. A sprayed volume of **8.4E5 ft<sup>3</sup>** will be applied in this calculation. This value differs from the Bechtel volume of 9.927E5 ft<sup>3</sup>, which was previously applied in the GGNS LOCA dose analysis, since it does not include volumes below the refueling floor that may be directly exposed to containment spray.

#### Wall Surface Area

The surface area is taken as the containment wall area above the refueling floor. The area below the containment spring line is calculated below as 11,265 ft<sup>2</sup>.

$$A = 2\pi rH = 2\pi(62 \text{ ft})(237'9" - 208'10") = 11,265 \text{ ft}^2$$

The half-sphere above the spring line is calculated as 24,153 ft<sup>2</sup>.

$$A = 2\pi r^2 = 2\pi(62 \text{ ft})^2 = 24,153 \text{ ft}^2$$

The total area available for plateout is therefore 35,418 ft<sup>2</sup>.

### Unsprayed Containment Volume

#### Volume

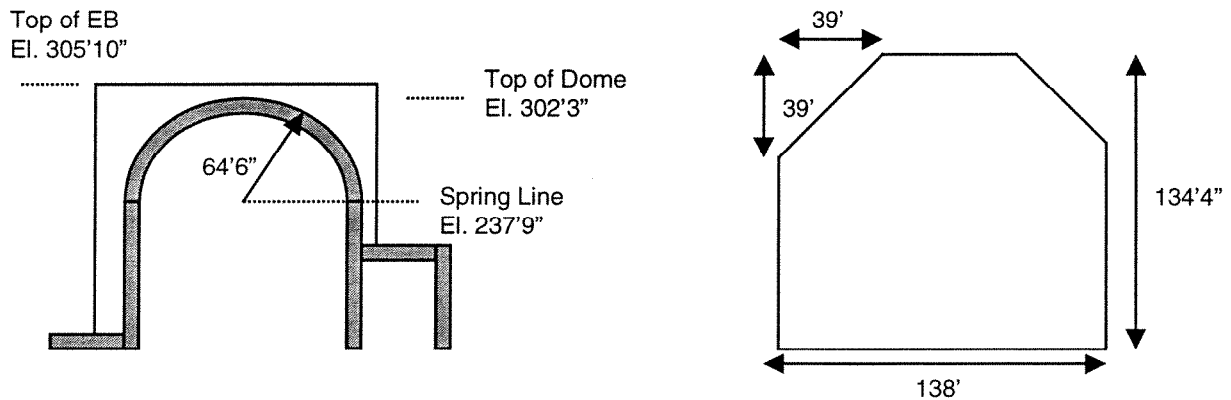
The volume of the unsprayed containment volume is the total containment volume ( $1.4\text{E}6 \text{ ft}^3$ ) per ABD-4 [21] less the sprayed containment volume ( $8.4\text{E}5 \text{ ft}^3$ ) and is calculated to be  $5.60\text{E}5 \text{ ft}^3$ .

#### Wall Surface Area

Considering the 62'-radius [34] of the containment cylinder and the 97-foot [34] height above the suppression pool (208'10"-111'10"), the area of the outer containment wall is calculated to be  $37,787 \text{ ft}^2$ .

### Enclosure Building Volume

A majority of the enclosure building volume is at the top of the building, surrounding the dome of containment. The enclosure building is illustrated below based on References 34, 43, and 44.



**Figure B-1 Enclosure Building Volume**

This part of the enclosure building volume is calculated below to be  $596,571 \text{ ft}^3$ . Considering the very small fraction of the building volume that the structural supports would accommodate and the remaining parts of the building, a net volume of  **$600,000 \text{ ft}^3$**  will be applied in the calculation.

$$V = \left[ (138') * (134'4") - 2 * \frac{(39') * (39')}{2} \right] (305'10" - 237'9") - \frac{\frac{4}{3} \pi (64.5')^3}{2} = 596,572 \text{ ft}^3$$

### Volume Between Isolated MSIVs

This volume is calculated to be  $433.7 \text{ ft}^3$  based on the  $144.562 \text{ ft}^3$  per line calculated in Reference 20. The length of the piping between the MSIVs is 40' 8.75" with an ID of 25.51" for an area of  $816 \text{ ft}^2$  per Reference 20.

## APPENDIX C SPRAY REMOVAL COEFFICIENTS

The GGNS LOCA dose analysis credits spray removal of the particulates and the elemental iodine in the sprayed region of the GGNS containment. This appendix develops the spray removal factor ( $\lambda$ ) that are applied in this calculation

### Particulate Removal

This section calculates the first-order removal constant,  $\lambda_p$ , for aerosols with the methodology in SRP 6.5.2 [57] and then checks this value with that calculated with the methodology in NUREG/CR-5966 [36]. SRP 6.5.2 reports the following formula for the first-order removal constant,  $\lambda_p$ , for aerosols.

$$\lambda_p = \frac{3hF}{2V} \cdot \frac{E}{D}$$

where:

- h = the fall height of the spray drops,
- V = the containment building net free volume,
- F = the spray flow, and
- (E/D) = the ratio of a dimensionless collection efficiency E to the average-spray drop diameter D.

### Spray Fall Height

The average droplet fall height is dependent on the available train of containment spray. As shown below, the headers for the "B" Train are located above the headers for the "A" Train per M-1348G and H [38,39].

**Table C-1 GGNS Containment Spray Heights**

RHR Train	Header Designation	Header Elevation	Height (ft)	Number of Nozzles	$N_i \cdot H_i$
B	A	294'	85.17	50	4258.33
	C	282'-10"	74.00	115	8510.00
	E	264'	55.17	185	10205.83
				350	22974.17
A	B	292'-6"	83.67	50	4183.33
	D	279'-10"	71.00	115	8165.00
	F	261'	52.17	185	9650.83
				350	21999.17

If the flowrate through all nozzles is assumed to be equal, the average drop height can be calculated by the nozzle-weighted average of the drop heights.

$$\bar{H} = \frac{\sum N_i H_i}{\sum N_i}$$

where:

$N_i$  is the number of nozzles on header i

$H_i$  is the height of header  $i$  above the operating floor (ft)

The average fall height is therefore 65.64 ft for the "B" Train and 62.85 feet for the "A" Train. The average value of the two trains is calculated to be 64.245 ft (1958 cm) and will be applied in this analysis. This fall height is also within the database in NUREG/CR-5966.

#### Spray Flow

With a containment spray flow rate of 5650 gpm [37] and the containment radius of 62 ft [34], the water flux can be calculated to be  $3.177\text{E-}2 \text{ cm}^3/\text{cm}^2\text{-s}$ . This water flux is within the database in NUREG/CR-5966.

$$Q = \frac{5650 \frac{\text{gal}}{\text{min}} \cdot \frac{\text{min}}{60 \text{ sec}} \cdot 3785.4 \frac{\text{cm}^3}{\text{gal}}}{\pi \cdot \left(62 \text{ ft} \cdot 30.48 \frac{\text{cm}}{\text{ft}}\right)^2} = 3.177\text{E-}2 \frac{\text{cm}^3}{\text{cm}^2 \cdot \text{s}}$$

#### Containment Volume

The free volume of the containment building is  $1.04\text{E}6 \text{ ft}^3$  per Appendix B.

#### SRP Lambda Calculation

The first-order removal constant,  $\lambda_p$ , for aerosols can then be calculated to be  $9.51 \text{ hr}^{-1}$ .

$$\lambda_p = \frac{3hF}{2V} \cdot \frac{E}{D} = \frac{3 \cdot 64.245 \text{ ft} \cdot 5650 \frac{\text{gal}}{\text{min}} \cdot \frac{60 \text{ min}}{\text{hr}} \cdot 0.13368 \frac{\text{ft}^3}{\text{gal}}}{2 \cdot 1.4\text{E}6 \text{ ft}^3} \cdot 10 \text{ m}^{-1} \cdot \frac{\text{m}}{3.28 \text{ ft}} = 9.51 \text{ hr}^{-1}$$

As discussed in SRP 6.5.2, since the removal of particulate material depends markedly upon the relative sizes of the particles and the spray drops, the spray removal lambda is assumed to decrease by a factor of 10 after the aerosol mass has been depleted by a factor of 50.

#### NUREG/CR-5966 Check

As a check on this SRP result, this section calculates the first-order removal constant,  $\lambda_p$ , for aerosols with the methodology in NUREG/CR-5966 [36]. This NUREG develops simplified models of the spray removal process by correlating the first-order removal constant with water flux, fall distance, and mass fraction of aerosol remaining. For the continuing source expected to result from the phased release postulated in NUREG-1465, Section 6 of NUREG/CR-5966 reports that a lambda based on a 90% mass fraction is appropriate. Per M-1348 [38], GGNS uses the Spraco Model 1713A spray nozzles on which the data in this NUREG is based.

The median 10% percentile value of lambda for a case with 90% mass fraction remaining is given by the following formula.

$$\ln \lambda(m_f = 0.9) = 5.5750 + 0.94362 \cdot \ln(Q) - 7.327\text{E} - 7 \cdot Q \cdot H^2 \\ - 6.9821\text{E} - 3 \cdot Q^2 \cdot H + 3.555\text{E} - 6 \cdot Q^2 \cdot H^2$$

where:

$Q$  = water flux ( $\text{cm}^3/\text{cm}^2\text{-s}$ ), and

$H$  = fall height (cm).

With the water flux of  $3.177\text{E-}2 \text{ cm}^3/\text{cm}^2\text{-s}$  and the 1958-cm fall height, the spray lambda at the 10% confidence factor can be calculated to be  $9.31 \text{ hr}^{-1}$  and corresponds well with the  $9.51 \text{ hr}^{-1}$  value generated with the SRP 6.5.2 methodology.

$$\ln \lambda(m_f = 0.9) = 5.5750 + 0.94362 \cdot \ln(3.177\text{E} - 2) - 7.327\text{E} - 7 \cdot 3.177\text{E} - 2 \cdot (1958)^2 \\ - 6.9821\text{E} - 3 \cdot (3.177\text{E} - 2)^2 \cdot 1958 + 3.555\text{E} - 6 \cdot (3.177\text{E} - 2)^2 \cdot (1958)^2 = 2.23 \\ \lambda(m_f = 0.9) = 9.31$$

### Elemental Iodine

SRP 6.5.2 provides guidance on calculating the spray lambda for removal of elemental iodine. The following formula is valid for lambdas greater than 10 per hour with a maximum of 20 per hour to prevent extrapolation beyond the existing data.

$$\lambda_s = \frac{6 \cdot k_g \cdot T \cdot F}{V \cdot D}$$

where:

- $\lambda_s$  = first-order removal coefficient by spray,
- $k_g$  = the gas-phase mass-transfer coefficient,
- $T$  = the time of fall of the drops, which may be estimated by the ratio of the average fall height to the terminal velocity of the mass-mean drop,
- $F$  = volume flow rate of the spray pump,
- $V$  = containment building net free volume, and
- $D$  = mass-mean diameter of the spray drops.

### Gas Phase Mass Transfer Coefficient

A calculation of the gas-phase mass-transfer coefficient has been prepared for the GGNS configuration in Calculation XC-Q1E12-98002 [29] and concluded that a value of 11.95 cm/s is appropriate. As a check, the gas-phase mass-transfer coefficient for a solved case with slightly different temperature assumptions was back-calculated. Specifically, on Page 106 of NUREG/CR-0009, the lambda for a PWR case with a 1713 spray nozzle with the following parameters was evaluated with the stagnant film model.

- $\lambda_s = 14.2 \text{ hr}^{-1}$
- $F = 1500 \text{ gpm}$
- $V = 1.75\text{E}6 \text{ ft}^3$
- Height = 90 ft
- Temp = 250 °F

Applying the terminal velocity and mass-weighted average drop size for the 1713 nozzles calculated in the following sections, an estimate of the gas-phase mass-transfer coefficient can be calculated to be 6 cm/s. Since this value is lower than the 11.95 cm/s calculated previously, this value will be applied in this analysis.

$$k_g = \frac{\lambda_s \cdot V \cdot D}{6 \cdot T \cdot F} = \frac{14.2 \cdot \frac{\text{hr}}{60 \text{ min}} \cdot 1.75\text{E}6 \text{ ft}^3 \cdot 1200\text{E}-6 \text{ m} \cdot 100 \frac{\text{cm}}{\text{m}}}{6 \cdot \frac{90 \text{ ft}}{400 \frac{\text{cm}}{\text{s}}} \cdot 30.48 \frac{\text{cm}}{\text{ft}} \cdot 1500 \frac{\text{gal}}{\text{min}} \cdot 0.1337 \frac{\text{ft}^3}{\text{gal}}} = 6 \frac{\text{cm}}{\text{s}}$$

### Spray Flow Rate

A single RHR pump can supply containment spray at a flow rate of 5650 gpm.

### Drop Diameter

Section 4.7 of the ECCS System Design Criteria [45] reports the spray nozzles are designed to produce spray droplets with an average diameter of 400 microns and a maximum diameter of 1600 microns. More recent tests with the Spraco 1713A nozzles in Figure 4 of NUREG/CR-5966 have confirmed this distribution. The mass-weighted average drop size, however, will be larger than 400 microns since the larger drops have exponentially more mass. This distribution is reported in Figure 7 of NUREG/CR-5966 which illustrates an average of the volume-weighted distribution to be approximately 1200 microns. A value of 1200 microns will be applied in this calculation.

### Containment Volume

The total containment volume of 1.4E6 ft<sup>3</sup> is applied in this calculation to produce a conservatively low spray lambda even though only a portion of the building is affected by the spray as calculated in Appendix B.

### Drop Time

The fall height of the spray drops is reported above as 64.245 ft (1958 cm). The terminal velocity of 1200 μm drops can be found to be approximately 400 cm/s from Figure 16 of NUREG/CR-5966. The drop time is calculated to be 4.9 seconds.

### Calculation

From the SRP equation above, the GGNS spray lambda for elemental iodine can be calculated to be 47.59 hr<sup>-1</sup>.

$$\lambda_s = \frac{6 \cdot k_g \cdot T \cdot F}{V \cdot D} = \frac{6 \cdot 6 \frac{\text{cm}}{\text{s}} \cdot 4.9 \text{ s} \cdot 5650 \frac{\text{gal}}{\text{min}} \cdot 0.1337 \frac{\text{ft}^3}{\text{gal}} \cdot 60 \frac{\text{min}}{\text{hr}}}{1.4\text{E}6 \text{ ft}^3 \cdot 1200\text{E}-6 \text{ m} \cdot 100 \frac{\text{cm}}{\text{m}}} = 47.59 \text{ hr}^{-1}$$

This result is reasonable considering the 14.2 hr<sup>-1</sup> value calculated for the PWR case described in NUREG/CR-0009 and the much higher spray flow rate at GGNS. Since the SRP allows a maximum lambda of 20 hr<sup>-1</sup>, this calculation will apply a spray removal lambda of 20 hr<sup>-1</sup> for elemental iodine.

As discussed in SRP 6.5.2, the maximum decontamination factor is 200 for elemental iodine. The effectiveness of the spray in removing elemental iodine shall be presumed to end at that time, post-LOCA, when the maximum elemental iodine DF is reached.

## APPENDIX D

### CONTAINMENT MIXING FLOW DURING SPRAY OPERATION

The mixing flows in containment during operation of the containment spray system can be calculated by assuming that, as the spray condenses water vapor in the containment atmosphere, the movement of this condensation results in a corresponding movement of air.

Figure 16 of ABD-4 [21] illustrates the suppression pool temperature profile in the event of a recirculation line break. The pool temperature,  $T_p$ , ranges from approximately 150 °F to 120 °F between 30 minutes and 24 hours after the accident. With a spray flow rate,  $\dot{m}_s$ , of 5650 gpm and a standby service water temperature,  $T_{sw}$ , of 90 °F, the spray temperature at the nozzles,  $T_s$ , can be calculated to be 110.619 °F with a pool temperature,  $T_p$ , of 140 °F based on the formulas provided in SAR Section 6.2.1.1.5.5.

$$T_s = T_p - \frac{KH X (T_p - T_{sw})}{\dot{m}_s C_p} = 140 \text{ °F} - \frac{454 \frac{\text{Btu}}{\text{s} \cdot \text{°F}} \cdot 60 \frac{\text{s}}{\text{min}}}{5650 \frac{\text{gal}}{\text{min}} \cdot 0.13368 \frac{\text{ft}^3}{\text{gal}} \cdot 61.376 \frac{\text{lb}}{\text{ft}^3}} \cdot (140 \text{ °F} - 90 \text{ °F}) = 110.619 \text{ °F}$$

where:

$C_p$  = the heat capacity of water (Btu/lb-°F) and  
KH X = heat exchanger capacity (454 Btu/s-°F).

If the containment atmosphere is saturated with water vapor at the same temperature as the suppression pool, the condensation capability of the sprays,  $\dot{m}_c$ , can be calculated to be 805.92 lbs/min.

$$\dot{m}_c = \dot{m}_s \cdot \frac{V_s (T_p - T_s)}{V_{free} h_{fg}} \cdot C_p = 5650 \frac{\text{gal}}{\text{min}} \cdot 0.13368 \frac{\text{ft}^3}{\text{gal}} \cdot 61.376 \frac{\text{lb}}{\text{ft}^3} \cdot \frac{8.4\text{E}5 \text{ ft}^3}{1.40\text{E}6 \text{ ft}^3} \cdot \frac{(140 \text{ °F} - 110.619 \text{ °F})}{1014 \frac{\text{Btu}}{\text{lb}}} \cdot 1 \frac{\text{Btu}}{\text{lb} \cdot \text{°F}} = 805.92 \frac{\text{lb}}{\text{min}}$$

where:

$V_s$  = sprayed volume (8.4E5 ft<sup>3</sup>),  
 $V_{free}$  = containment free volume (1.4E6 ft<sup>3</sup>), and  
 $h_{fg}$  = latent heat of vaporization.

If the surrounding air of this condensed water vapor is dragged to the suppression pool with this condensate, the volumetric flow of dry air associated with this condensation rate can be calculated as 79,381 ft<sup>3</sup> per minute.

$$\dot{m}_{air} = \frac{\dot{m}_c}{HR} \cdot v_{air} = \frac{805.92 \frac{\text{lb}}{\text{min}}}{0.153405 \frac{\text{lb water vapor}}{\text{lb dry air}}} \cdot 15.11 \frac{\text{ft}^3}{\text{lb dry air}} = 79,381 \frac{\text{ft}^3 \text{ dry air}}{\text{min}}$$

This calculation is repeated for the range of suppression pool temperatures that may exist for the first 24 hours to generate the following table.

**Table C-1 Range of Containment Mixing Flows during Spray Operation**

<b>Pool Temp., <math>T_p</math> (°F)</b>	<b>Water Density (lb/ft<sup>3</sup>) [53]</b>	<b>Heat of Vaporization, <math>h_{fg}</math> (Btu/lb) [56]</b>	<b>Humidity Ratio, HR (lbs water vapor per lb dry air) [55]</b>	<b>Specific Volume (cu.ft per lb dry air) [54]</b>	<b>Spray Temp, <math>T_s</math>, (°F)</b>	<b>Condens. Capability (lbs water vapor/sec)</b>	<b>Dry Air Flow Rate (cfm)</b>
120	61.7132	1025.6	0.081507	14.6	102.468	7.97	85,637
130	61.550	1019.8	0.111652	14.86	106.562	10.68	85,321
140	61.376	1014.0	0.153405	15.11	110.619	13.43	79,381
150	61.188	1008.2	0.212512	15.36	114.635	16.21	70,302

Based on the lowest mixing rate predicted above, a conservatively low flow of 70,000 cfm will be assumed between the sprayed and unsprayed containment regions. This will minimize the transport of source terms into the sprayed region where they are removed. This value is consistent with that applied in the Perry analysis per Table 3 of the Perry SER [33].

## INITIAL DOSE CONVERSION FACTORS

		Decay Constant (1/s)	FGR-12 Air Immersion DCF (Sv-m <sup>3</sup> /Bq-s)	FGR-11 Thyroid DCF (Sv/Bq)	FGR-11 Inhalation DCF (Sv/Bq)	Air Immersion (Rem-m <sup>3</sup> /Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)	Air Immersion (Rem-m <sup>3</sup> /s-atom)	Thyroid (Rem/atom)	Inhalation (Rem/atom)
	Half-Life										
I-129	1.60E+07 years	1.37278E-15	3.80E-16	1.56E-06	4.69E-08	1.40600E-03	5.77200E+06	1.73530E+05	5.21657E-29	2.14154E-19	6.43835E-21
I-131	8.04 days	9.97828E-07	1.82E-14	2.92E-07	8.89E-09	6.73400E-02	1.08040E+06	3.28930E+04	1.81605E-18	2.91366E-11	8.87069E-13
I-132	2.28 hours	8.44478E-05	1.12E-13	1.74E-09	1.03E-10	4.14400E-01	6.43800E+03	3.81100E+02	9.45815E-16	1.46939E-11	8.69812E-13
I-133	20.8 hours	9.25677E-06	2.94E-14	4.86E-08	1.58E-09	1.08780E-01	1.79820E+05	5.84600E+03	2.72149E-17	4.49879E-11	1.46257E-12
I-134	52.5 min	2.20047E-04	1.30E-13	2.88E-10	3.55E-11	4.81000E-01	1.06560E+03	1.31350E+02	2.86061E-15	6.33735E-12	7.81166E-13
Te-129	69.5 min	1.66222E-04	2.75E-15	5.09E-13	2.09E-11	1.01750E-02	1.88330E+00	7.73300E+01	4.57111E-17	8.46072E-15	3.47405E-13
Te-129m	33.4 days	2.40196E-07	1.55E-15	1.56E-10	6.47E-09	5.73500E-03	5.77200E+02	2.39390E+04	3.72303E-20	3.74705E-15	1.55407E-13
Te-131	25 min	4.62098E-04	2.04E-14	2.66E-09	1.24E-10	7.54800E-02	9.84200E+03	4.58800E+02	9.42680E-16	1.22918E-10	5.73002E-12
Te-131m	32.4 hours	5.94262E-06	7.01E-14	3.61E-08	1.73E-09	2.59370E-01	1.33570E+05	6.40100E+03	4.16578E-17	2.14529E-11	1.02807E-12
Te-132	78.2 hours	2.46216E-06	1.03E-14	6.28E-08	2.55E-09	3.81100E-02	2.32360E+05	9.43500E+03	2.53602E-18	1.54624E-11	6.27851E-13
Te-133	12.5 min	9.24196E-04	4.60E-14	5.91E-10	2.39E-11	1.70200E-01	2.18670E+03	8.84300E+01	4.25130E-15	5.46200E-11	2.20883E-12
Te-133m	55.4 min	2.08528E-04	1.14E-13	2.63E-09	1.10E-10	4.21800E-01	9.73100E+03	4.07000E+02	2.37722E-15	5.48429E-11	2.29381E-12
Te-134	42 min	2.75058E-04	4.24E-14	5.56E-10	3.23E-11	1.56880E-01	2.05720E+03	1.19510E+02	1.16625E-15	1.52932E-11	8.88439E-13

## DCFS ADJUSTED FOR DECAY PRODUCTS

	Air Immersion (Rem-m <sup>3</sup> /s-atom)	Thyroid (Rem/atom)	Inhalation (Rem/atom)
Te-129	4.57111E-17	8.46093E-15	3.47405E-13
Te-129m	2.97495E-17	9.24673E-15	3.81220E-13
Te-131m	2.50863E-16	7.76314E-11	3.17575E-12
Te-132	9.48351E-16	3.01563E-11	1.49766E-12
Te-133m	2.95710E-15	1.06931E-10	4.04353E-12
Te-134	4.02686E-15	2.16306E-11	1.66960E-12

Air Immersion (Rem-m <sup>3</sup> /Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
1.01750E-02	1.88335E+00	7.73300E+01
4.58264E+00	1.42438E+03	5.87235E+04
1.56193E+00	4.83350E+05	1.97729E+04
1.42513E+01	4.53172E+05	2.25061E+04
5.24691E-01	1.89733E+04	7.17460E+02
5.41680E-01	2.90968E+03	2.24590E+02

## ESF LIQUID LEAKAGE TRANSACT RUN

1 TRANSACT Version 2.0, Revision 0  
Based on TACT V  
SEP 87 PC VERSION  
REVISED TO VERSION 2 - JANUARY 1999  
BY GGNS SAFETY ANALYSIS  
  
MODIFIED FALL 1992 FOR GGNS  
BY OMEGA TECHNICAL SERVICES, INC.  
  
NUCLEAR REGULATORY COMMISSION  
ACCIDENT EVALUATION BRANCH  
DATE 9/29/ 0 TIME 16:11:25  
  
MODEL SUMMARY FOR CASE 1

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
ESF Liquid Leakage Dose Calculation  
Input File: ESF.TXT Output File: ESF.OUT  
No CR Fresh Air charcoal, No CR auto isolation, CR Inleakage = 2010 cfm

TIME INDEPENDENT INPUT  
CASE NUMBER 1

NODES NSTEP  
2 69

OUTPUT CONTROL PARAMETER  
I 1 2 3 4 5  
IPRINT(I) 0 0 0 1 0

NUMBER OF DOSE EVALUATION POINTS - 3

POWER (MWT) REACTOR SHUTDOWN TIME (HRS)  
3.910E+03 3.361E-02

FRACTION OF ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

PLATEOUT FACTOR FOR ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

FRACTION OF CORE INVENTORY AIRBORNE IN THE CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ISOTOPIC SPLIT BY GROUP			
	ELEM.	ORG.	PART.
NOBLES	0.000E+00	0.000E+00	0.000E+00
HALOGENS	9.700E-01	3.000E-02	0.000E+00
ALKMETAL	0.000E+00	0.000E+00	0.000E+00
TELLURM	0.000E+00	0.000E+00	0.000E+00
BARSTRNT	0.000E+00	0.000E+00	0.000E+00
NOBMETAL	0.000E+00	0.000E+00	0.000E+00
LANTHANM	0.000E+00	0.000E+00	0.000E+00
CERIUM	0.000E+00	0.000E+00	0.000E+00

VOLUME OF NODES (CU FT)	
SuppPool	Sec_Cont
1.709E+05	3.000E+05

CONTROL ROOM VOLUME (CU FT)  
2.530E+05

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE			SOURCE	DECAY CONST	DOSE CONVERSION FACTORS		
NAME	SPLIT	GROUP	(CI/MWT)	(1/HR)	WHOLEBDY	THYROID	INHALATN
BR 82	ELEM.	HALOGENS	1.89150E+02	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	ORG.	HALOGENS	5.85000E+00	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 83	ELEM.	HALOGENS	3.41634E+03	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	ORG.	HALOGENS	1.05660E+02	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 84	ELEM.	HALOGENS	6.01303E+03	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	ORG.	HALOGENS	1.85970E+02	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
I 131	ELEM.	HALOGENS	2.67429E+04	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	ORG.	HALOGENS	8.27100E+02	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 132	ELEM.	HALOGENS	3.85769E+04	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	ORG.	HALOGENS	1.19310E+03	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 133	ELEM.	HALOGENS	5.34858E+04	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	ORG.	HALOGENS	1.65420E+03	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 134	ELEM.	HALOGENS	5.89178E+04	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	ORG.	HALOGENS	1.82220E+03	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 135	ELEM.	HALOGENS	4.99841E+04	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	ORG.	HALOGENS	1.54590E+03	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	0.00000E+00	1.00000E-01
RELEASE FRACTION	2	0	0	0	1	1.00000E-01	
TIME INTERVAL	0	0	0	0	2	1.00000E-01	1.33330E-01
TIME INTERVAL	0	0	0	0	2	1.33330E-01	2.00000E-01
TRANSFER CFM	0	0	0	1	3	0.00000E+00	0.00000E+00
1.50000E-01							
FILTER EFF	2	1	0	1	3	0.00000E+00	0.00000E+00
9.00000E+01							
FILTER EFF	2	2	0	1	3	0.00000E+00	0.00000E+00
9.00000E+01							
TRANSFER CFM	0	0	0	2	1	4.00100E+03	
FILTER EFF	2	1	0	2	1	9.89750E+01	
FILTER EFF	2	2	0	2	1	9.89750E+01	
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00		1.00000E+00				
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
1.25000E-04	3.50000E-04		8.00000E-04		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	2.00000E-01	3.00000E-01
TIME INTERVAL	0	0	0	0	2	3.00000E-01	4.00000E-01
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00		1.00000E+00				
TIME INTERVAL	0	0	0	0	2	4.00000E-01	5.00000E-01
TIME INTERVAL	0	0	0	0	2	5.00000E-01	6.00000E-01
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
TIME INTERVAL	0	0	0	0	2	6.00000E-01	7.00000E-01
TIME INTERVAL	0	0	0	0	2	7.00000E-01	8.00000E-01
TIME INTERVAL	0	0	0	0	2	8.00000E-01	9.00000E-01
TIME INTERVAL	0	0	0	0	2	9.00000E-01	1.00000E+00
TIME INTERVAL	0	0	0	0	2	1.00000E+00	1.10000E+00
TIME INTERVAL	0	0	0	0	2	1.10000E+00	1.20000E+00
TIME INTERVAL	0	0	0	0	2	1.20000E+00	1.30000E+00
TIME INTERVAL	0	0	0	0	2	1.30000E+00	1.40000E+00
TIME INTERVAL	0	0	0	0	2	1.40000E+00	1.50000E+00
TIME INTERVAL	0	0	0	0	2	1.50000E+00	1.60000E+00
TIME INTERVAL	0	0	0	0	2	1.60000E+00	1.70000E+00
TIME INTERVAL	0	0	0	0	2	1.70000E+00	1.80000E+00
TIME INTERVAL	0	0	0	0	2	1.80000E+00	1.90000E+00
TIME INTERVAL	0	0	0	0	2	1.90000E+00	2.00000E+00
TIME INTERVAL	0	0	0	0	2	2.00000E+00	2.10000E+00
RELEASE FRACTION	2	0	0	0	1	0.00000E+00	
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
6.00000E-05	3.50000E-04		5.00000E-04		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	2.10000E+00	2.20000E+00
TIME INTERVAL	0	0	0	0	2	2.20000E+00	2.30000E+00
TIME INTERVAL	0	0	0	0	2	2.30000E+00	2.40000E+00
TIME INTERVAL	0	0	0	0	2	2.40000E+00	2.50000E+00
TIME INTERVAL	0	0	0	0	2	2.50000E+00	2.60000E+00
TIME INTERVAL	0	0	0	0	2	2.60000E+00	2.70000E+00
TIME INTERVAL	0	0	0	0	2	2.70000E+00	2.80000E+00
TIME INTERVAL	0	0	0	0	2	2.80000E+00	2.90000E+00
TIME INTERVAL	0	0	0	0	2	2.90000E+00	3.00000E+00
TIME INTERVAL	0	0	0	0	2	3.00000E+00	3.10000E+00
TIME INTERVAL	0	0	0	0	2	3.10000E+00	3.20000E+00

TIME INTERVAL	0	0	0	0	2	3.20000E+00	3.30000E+00
TIME INTERVAL	0	0	0	0	2	3.30000E+00	3.40000E+00
TIME INTERVAL	0	0	0	0	2	3.40000E+00	3.50000E+00

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	3.50000E+00	3.60000E+00
TIME INTERVAL	0	0	0	0	2	3.60000E+00	3.70000E+00
TIME INTERVAL	0	0	0	0	2	3.70000E+00	3.80000E+00
TIME INTERVAL	0	0	0	0	2	3.80000E+00	3.90000E+00
TIME INTERVAL	0	0	0	0	2	3.90000E+00	4.00000E+00
TIME INTERVAL	0	0	0	0	2	4.00000E+00	4.10000E+00
TIME INTERVAL	0	0	0	0	2	4.10000E+00	4.20000E+00
TIME INTERVAL	0	0	0	0	2	4.20000E+00	4.30000E+00
TIME INTERVAL	0	0	0	0	2	4.30000E+00	4.40000E+00
TIME INTERVAL	0	0	0	0	2	4.40000E+00	4.50000E+00
TIME INTERVAL	0	0	0	0	2	4.50000E+00	4.60000E+00
TIME INTERVAL	0	0	0	0	2	4.60000E+00	4.70000E+00
TIME INTERVAL	0	0	0	0	2	4.70000E+00	4.80000E+00
TIME INTERVAL	0	0	0	0	2	4.80000E+00	4.90000E+00
TIME INTERVAL	0	0	0	0	2	4.90000E+00	5.00000E+00
TIME INTERVAL	0	0	0	0	2	5.00000E+00	5.10000E+00
TIME INTERVAL	0	0	0	0	2	5.10000E+00	5.20000E+00
TIME INTERVAL	0	0	0	0	2	5.20000E+00	5.30000E+00
TIME INTERVAL	0	0	0	0	2	5.30000E+00	5.40000E+00
TIME INTERVAL	0	0	0	0	2	5.40000E+00	5.50000E+00
TIME INTERVAL	0	0	0	0	2	5.50000E+00	5.60000E+00
TIME INTERVAL	0	0	0	0	2	5.60000E+00	5.70000E+00
TIME INTERVAL	0	0	0	0	2	5.70000E+00	5.80000E+00
TIME INTERVAL	0	0	0	0	2	5.80000E+00	5.90000E+00
TIME INTERVAL	0	0	0	0	2	5.90000E+00	6.00000E+00
TIME INTERVAL	0	0	0	0	2	6.00000E+00	8.00000E+00
TIME INTERVAL	0	0	0	0	2	8.00000E+00	8.33000E+00
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
4.50000E-05	1.80000E-04	2.50000E-04	3.50000E-04	0.00000E+00			
TIME INTERVAL	0	0	0	0	2	8.33000E+00	1.20000E+01
TIME INTERVAL	0	0	0	0	2	1.20000E+01	1.94000E+01
TIME INTERVAL	0	0	0	0	2	1.94000E+01	2.40000E+01
TIME INTERVAL	0	0	0	0	2	2.40000E+01	7.20000E+01
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00	6.00000E-01					
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
2.00000E-05	2.30000E-04	1.60000E-04	3.50000E-04	0.00000E+00			
TIME INTERVAL	0	0	0	0	2	7.20000E+01	9.60000E+01
CONTROL ROOM	0	0	0	0	5	1.00000E+01	4.00000E+03
4.01000E+03	0.00000E+00	6.00000E-01					
TIME INTERVAL	0	0	0	0	2	9.60000E+01	7.20000E+02
CONTROL ROOM	0	0	0	0	5	1.00000E+01	4.00000E+03
4.01000E+03	0.00000E+00	4.00000E-01					
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
7.00000E-06	2.30000E-04	1.30000E-04	3.50000E-04	0.00000E+00			

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
CALCULATION FOR WHOLEBODY DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION EACH STEP	RADIUS ACCUM.	LOW POPULATION EACH STEP	ZONE ACCUM.	CONTROL ROOM EACH STEP	ROOM ACCUM.
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.000E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.333E-01	2.342E-07	2.342E-07	4.879E-08	4.879E-08	2.778E-10	2.778E-10
2.000E-01	1.465E-06	1.699E-06	3.051E-07	3.539E-07	3.369E-09	3.647E-09
3.000E-01	3.203E-06	4.902E-06	6.672E-07	1.021E-06	1.123E-08	1.487E-08
4.000E-01	5.324E-06	1.023E-05	1.109E-06	2.130E-06	2.513E-08	4.000E-08
5.000E-01	7.805E-06	1.803E-05	1.626E-06	3.756E-06	4.587E-08	8.587E-08
6.000E-01	1.074E-05	2.877E-05	2.238E-06	5.994E-06	7.431E-08	1.602E-07
7.000E-01	1.410E-05	4.287E-05	2.938E-06	8.932E-06	1.114E-07	2.716E-07
8.000E-01	1.782E-05	6.069E-05	3.713E-06	1.264E-05	1.578E-07	4.294E-07
9.000E-01	2.184E-05	8.253E-05	4.550E-06	1.719E-05	2.141E-07	6.436E-07
1.000E+00	2.612E-05	1.087E-04	5.441E-06	2.264E-05	2.805E-07	9.240E-07
1.100E+00	3.060E-05	1.393E-04	6.375E-06	2.901E-05	3.571E-07	1.281E-06

1.200E+00	3.526E-05	1.745E-04	7.346E-06	3.636E-05	4.438E-07	1.725E-06
1.300E+00	4.007E-05	2.146E-04	8.347E-06	4.470E-05	5.406E-07	2.266E-06
1.400E+00	4.498E-05	2.596E-04	9.372E-06	5.408E-05	6.473E-07	2.913E-06
1.500E+00	5.000E-05	3.096E-04	1.042E-05	6.449E-05	7.636E-07	3.676E-06
1.600E+00	5.508E-05	3.646E-04	1.147E-05	7.597E-05	8.891E-07	4.565E-06
1.700E+00	6.021E-05	4.248E-04	1.254E-05	8.851E-05	1.024E-06	5.589E-06
1.800E+00	6.538E-05	4.902E-04	1.362E-05	1.021E-04	1.167E-06	6.756E-06
1.900E+00	7.058E-05	5.608E-04	1.470E-05	1.168E-04	1.318E-06	8.074E-06
2.000E+00	7.563E-05	6.364E-04	7.563E-06	1.244E-04	1.427E-06	9.500E-06
2.100E+00	7.996E-05	7.164E-04	7.996E-06	1.324E-04	1.493E-06	1.099E-05
2.200E+00	8.351E-05	7.999E-04	8.351E-06	1.407E-04	1.563E-06	1.256E-05
2.300E+00	8.641E-05	8.863E-04	8.641E-06	1.494E-04	1.637E-06	1.419E-05
2.400E+00	8.873E-05	9.751E-04	8.873E-06	1.583E-04	1.712E-06	1.591E-05
2.500E+00	9.056E-05	1.066E-03	9.056E-06	1.673E-04	1.787E-06	1.769E-05
2.600E+00	9.198E-05	1.158E-03	9.198E-06	1.765E-04	1.862E-06	1.955E-05
2.700E+00	9.303E-05	1.251E-03	9.303E-06	1.858E-04	1.935E-06	2.149E-05
2.800E+00	9.377E-05	1.344E-03	9.377E-06	1.952E-04	2.006E-06	2.349E-05
2.900E+00	9.425E-05	1.439E-03	9.425E-06	2.046E-04	2.074E-06	2.557E-05
3.000E+00	9.449E-05	1.533E-03	9.449E-06	2.141E-04	2.140E-06	2.771E-05
3.100E+00	9.455E-05	1.628E-03	9.455E-06	2.235E-04	2.202E-06	2.991E-05
3.200E+00	9.444E-05	1.722E-03	9.444E-06	2.330E-04	2.262E-06	3.217E-05
3.300E+00	9.419E-05	1.816E-03	9.419E-06	2.424E-04	2.318E-06	3.449E-05
3.400E+00	9.382E-05	1.910E-03	9.382E-06	2.518E-04	2.370E-06	3.686E-05
3.500E+00	9.334E-05	2.003E-03	9.334E-06	2.611E-04	2.420E-06	3.928E-05
3.600E+00	9.279E-05	2.096E-03	9.279E-06	2.704E-04	2.466E-06	4.175E-05
3.700E+00	9.216E-05	2.188E-03	9.216E-06	2.796E-04	2.509E-06	4.426E-05
3.800E+00	9.147E-05	2.280E-03	9.147E-06	2.887E-04	2.549E-06	4.680E-05
3.900E+00	9.074E-05	2.371E-03	9.074E-06	2.978E-04	2.586E-06	4.939E-05
4.000E+00	8.996E-05	2.461E-03	8.996E-06	3.068E-04	2.620E-06	5.201E-05
4.100E+00	8.915E-05	2.550E-03	8.915E-06	3.157E-04	2.650E-06	5.466E-05
4.200E+00	8.832E-05	2.638E-03	8.832E-06	3.246E-04	2.679E-06	5.734E-05
4.300E+00	8.747E-05	2.726E-03	8.747E-06	3.333E-04	2.704E-06	6.004E-05
4.400E+00	8.660E-05	2.812E-03	8.660E-06	3.420E-04	2.727E-06	6.277E-05
4.500E+00	8.573E-05	2.898E-03	8.573E-06	3.505E-04	2.747E-06	6.552E-05
4.600E+00	8.484E-05	2.983E-03	8.484E-06	3.590E-04	2.765E-06	6.828E-05
4.700E+00	8.396E-05	3.067E-03	8.396E-06	3.674E-04	2.781E-06	7.106E-05
4.800E+00	8.307E-05	3.150E-03	8.307E-06	3.757E-04	2.795E-06	7.386E-05
4.900E+00	8.218E-05	3.232E-03	8.218E-06	3.839E-04	2.807E-06	7.666E-05
5.000E+00	8.130E-05	3.313E-03	8.130E-06	3.921E-04	2.817E-06	7.948E-05
5.100E+00	8.042E-05	3.394E-03	8.042E-06	4.001E-04	2.825E-06	8.231E-05
5.200E+00	7.955E-05	3.473E-03	7.955E-06	4.081E-04	2.831E-06	8.514E-05
5.300E+00	7.868E-05	3.552E-03	7.868E-06	4.159E-04	2.836E-06	8.797E-05
5.400E+00	7.783E-05	3.630E-03	7.783E-06	4.237E-04	2.839E-06	9.081E-05
5.500E+00	7.698E-05	3.707E-03	7.698E-06	4.314E-04	2.841E-06	9.365E-05
5.600E+00	7.615E-05	3.783E-03	7.615E-06	4.390E-04	2.841E-06	9.649E-05
5.700E+00	7.532E-05	3.858E-03	7.532E-06	4.466E-04	2.841E-06	9.934E-05
5.800E+00	7.451E-05	3.933E-03	7.451E-06	4.540E-04	2.839E-06	1.022E-04
5.900E+00	7.371E-05	4.006E-03	7.371E-06	4.614E-04	2.835E-06	1.050E-04
6.000E+00	1.324E-03	5.330E-03	1.324E-04	5.938E-04	5.432E-05	1.593E-04
8.000E+00	1.944E-04	5.525E-03	1.458E-05	6.083E-04	8.319E-06	1.676E-04
8.330E+00	1.829E-03	7.353E-03	1.372E-04	7.455E-04	5.827E-05	2.259E-04
1.200E+01	2.540E-03	9.893E-03	1.905E-04	9.360E-04	6.130E-05	2.872E-04
1.333E-01	1.144E-03	1.104E-02	8.579E-05	1.022E-03	2.814E-05	3.154E-04
2.400E+01	5.918E-03	1.695E-02	1.973E-04	1.219E-03	5.159E-05	3.669E-04
7.200E+01	1.618E-03	1.857E-02	5.392E-05	1.273E-03	1.463E-05	3.816E-04
9.600E+01	1.258E-02	3.115E-02	1.467E-04	1.420E-03	6.201E-05	4.436E-04
	TOTAL	3.115E-02	TOTAL	1.420E-03	TOTAL	4.436E-04

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#### SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
CALCULATION FOR THYROID DOSE (REMS)

#### MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.000E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.333E-01	5.008E-05	5.008E-05	1.043E-05	1.043E-05	1.050E-06	1.050E-06
2.000E-01	3.208E-04	3.709E-04	6.683E-05	7.727E-05	1.308E-05	1.413E-05
3.000E-01	7.207E-04	1.092E-03	1.501E-04	2.274E-04	4.485E-05	5.898E-05
4.000E-01	1.230E-03	2.322E-03	2.563E-04	4.837E-04	1.033E-04	1.623E-04
5.000E-01	1.856E-03	4.178E-03	3.867E-04	8.703E-04	1.942E-04	3.565E-04
6.000E-01	2.650E-03	6.828E-03	5.522E-04	1.423E-03	3.248E-04	6.812E-04

7.000E-01	3.615E-03	1.044E-02	7.532E-04	2.176E-03	5.037E-04	1.185E-03
8.000E-01	4.736E-03	1.518E-02	9.868E-04	3.162E-03	7.387E-04	1.924E-03
9.000E-01	6.002E-03	2.118E-02	1.250E-03	4.413E-03	1.036E-03	2.960E-03
1.000E+00	7.399E-03	2.858E-02	1.541E-03	5.954E-03	1.402E-03	4.362E-03
1.100E+00	8.918E-03	3.750E-02	1.858E-03	7.812E-03	1.841E-03	6.204E-03
1.200E+00	1.055E-02	4.805E-02	2.198E-03	1.001E-02	2.357E-03	8.561E-03
1.300E+00	1.228E-02	6.033E-02	2.559E-03	1.257E-02	2.952E-03	1.151E-02
1.400E+00	1.411E-02	7.444E-02	2.939E-03	1.551E-02	3.629E-03	1.514E-02
1.500E+00	1.602E-02	9.046E-02	3.338E-03	1.885E-02	4.389E-03	1.953E-02
1.600E+00	1.802E-02	1.085E-01	3.753E-03	2.260E-02	5.235E-03	2.477E-02
1.700E+00	2.008E-02	1.286E-01	4.184E-03	2.678E-02	6.165E-03	3.093E-02
1.800E+00	2.222E-02	1.508E-01	4.628E-03	3.141E-02	7.181E-03	3.811E-02
1.900E+00	2.441E-02	1.752E-01	5.086E-03	3.650E-02	8.283E-03	4.639E-02
2.000E+00	2.662E-02	2.018E-01	5.662E-03	4.203E-02	9.156E-03	5.555E-02
2.100E+00	2.869E-02	2.305E-01	6.262E-03	4.803E-02	9.789E-03	6.534E-02
2.200E+00	3.059E-02	2.611E-01	6.939E-03	5.459E-02	1.047E-02	7.581E-02
2.300E+00	3.234E-02	2.934E-01	7.694E-03	6.172E-02	1.119E-02	8.699E-02
2.400E+00	3.394E-02	3.274E-01	8.449E-03	6.947E-02	1.193E-02	9.893E-02
2.500E+00	3.541E-02	3.628E-01	9.204E-03	7.772E-02	1.271E-02	1.116E-01
2.600E+00	3.676E-02	3.995E-01	9.969E-03	8.647E-02	1.350E-02	1.251E-01
2.700E+00	3.800E-02	4.375E-01	1.074E-02	9.572E-02	1.430E-02	1.394E-01
2.800E+00	3.914E-02	4.767E-01	1.154E-02	1.052E-01	1.511E-02	1.545E-01
2.900E+00	4.018E-02	5.169E-01	1.234E-02	1.132E-01	1.592E-02	1.705E-01
3.000E+00	4.113E-02	5.580E-01	1.314E-02	1.212E-01	1.673E-02	1.872E-01
3.100E+00	4.201E-02	6.000E-01	1.394E-02	1.292E-01	1.754E-02	2.047E-01
3.200E+00	4.281E-02	6.428E-01	1.474E-02	1.372E-01	1.835E-02	2.231E-01
3.300E+00	4.354E-02	6.864E-01	1.554E-02	1.452E-01	1.914E-02	2.422E-01
3.400E+00	4.421E-02	7.306E-01	1.634E-02	1.532E-01	1.992E-02	2.621E-01
3.500E+00	4.482E-02	7.754E-01	1.714E-02	1.612E-01	2.070E-02	2.828E-01
3.600E+00	4.537E-02	8.207E-01	1.794E-02	1.692E-01	2.145E-02	3.043E-01
3.700E+00	4.588E-02	8.666E-01	1.874E-02	1.772E-01	2.219E-02	3.265E-01
3.800E+00	4.635E-02	9.130E-01	1.954E-02	1.852E-01	2.292E-02	3.494E-01
3.900E+00	4.677E-02	9.597E-01	2.034E-02	1.932E-01	2.363E-02	3.730E-01
4.000E+00	4.715E-02	1.007E+00	2.114E-02	2.012E-01	2.432E-02	3.973E-01
4.100E+00	4.750E-02	1.054E+00	2.194E-02	2.092E-01	2.499E-02	4.223E-01
4.200E+00	4.781E-02	1.102E+00	2.274E-02	2.172E-01	2.564E-02	4.480E-01
4.300E+00	4.810E-02	1.150E+00	2.354E-02	2.252E-01	2.627E-02	4.742E-01
4.400E+00	4.836E-02	1.199E+00	2.434E-02	2.332E-01	2.688E-02	5.011E-01
4.500E+00	4.859E-02	1.247E+00	2.514E-02	2.412E-01	2.747E-02	5.286E-01
4.600E+00	4.880E-02	1.296E+00	2.594E-02	2.492E-01	2.805E-02	5.566E-01
4.700E+00	4.899E-02	1.345E+00	2.674E-02	2.572E-01	2.860E-02	5.852E-01
4.800E+00	4.915E-02	1.394E+00	2.754E-02	2.652E-01	2.914E-02	6.144E-01
4.900E+00	4.930E-02	1.443E+00	2.834E-02	2.732E-01	2.965E-02	6.440E-01
5.000E+00	4.944E-02	1.493E+00	2.914E-02	2.812E-01	3.015E-02	6.742E-01
5.100E+00	4.955E-02	1.542E+00	3.000E-02	2.900E-01	3.062E-02	7.048E-01
5.200E+00	4.966E-02	1.592E+00	3.080E-02	2.980E-01	3.108E-02	7.359E-01
5.300E+00	4.975E-02	1.642E+00	3.160E-02	3.060E-01	3.152E-02	7.674E-01
5.400E+00	4.982E-02	1.692E+00	3.240E-02	3.140E-01	3.195E-02	7.993E-01
5.500E+00	4.989E-02	1.742E+00	3.320E-02	3.220E-01	3.235E-02	8.317E-01
5.600E+00	4.995E-02	1.792E+00	3.400E-02	3.300E-01	3.274E-02	8.644E-01
5.700E+00	4.999E-02	1.842E+00	3.480E-02	3.380E-01	3.311E-02	8.976E-01
5.800E+00	5.003E-02	1.892E+00	3.560E-02	3.460E-01	3.347E-02	9.310E-01
5.900E+00	5.006E-02	1.942E+00	3.640E-02	3.540E-01	3.381E-02	9.648E-01
6.000E+00	9.999E-01	2.942E+00	3.720E-02	3.620E-01	7.276E-01	1.692E+00
8.000E+00	1.638E-01	3.105E+00	6.317E-03	3.194E-01	1.213E-01	1.814E+00
8.330E+00	1.785E+00	4.890E+00	6.885E-02	3.883E-01	9.924E-01	2.806E+00
1.200E+01	3.401E+00	8.291E+00	1.312E-01	5.195E-01	1.457E+00	4.263E+00
1.940E+01	2.000E+00	1.029E+01	7.713E-02	5.966E-01	8.379E-01	5.101E+00
2.400E+01	1.749E+01	2.778E+01	3.830E-01	9.797E-01	2.764E+00	7.865E+00
7.200E+01	7.221E+00	3.500E+01	1.582E-01	1.138E+00	1.150E+00	9.015E+00
9.600E+01	6.905E+01	1.040E+02	5.294E-01	1.667E+00	5.961E+00	1.498E+01
TOTAL		1.040E+02	TOTAL		1.667E+00	TOTAL 1.498E+01

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#### SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
CALCULATION FOR INHALATN DOSE (REMS)

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.000E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.333E-01	1.583E-06	1.583E-06	3.297E-07	3.297E-07	3.316E-08	3.316E-08

2.000E-01	1.013E-05	1.172E-05	2.111E-06	2.441E-06	4.132E-07	4.464E-07
3.000E-01	2.276E-05	3.447E-05	4.741E-06	7.182E-06	1.416E-06	1.862E-06
4.000E-01	3.883E-05	7.330E-05	8.089E-06	1.527E-05	3.260E-06	5.122E-06
5.000E-01	5.856E-05	1.319E-04	1.220E-05	2.747E-05	6.125E-06	1.125E-05
6.000E-01	8.359E-05	2.154E-04	1.741E-05	4.489E-05	1.024E-05	2.149E-05
7.000E-01	1.139E-04	3.294E-04	2.374E-05	6.862E-05	1.587E-05	3.736E-05
8.000E-01	1.492E-04	4.786E-04	3.109E-05	9.971E-05	2.327E-05	6.063E-05
9.000E-01	1.890E-04	6.676E-04	3.937E-05	1.391E-04	3.263E-05	9.326E-05
1.000E+00	2.329E-04	9.005E-04	4.852E-05	1.876E-04	4.414E-05	1.374E-04
1.100E+00	2.806E-04	1.181E-03	5.846E-05	2.461E-04	5.793E-05	1.953E-04
1.200E+00	3.318E-04	1.513E-03	6.913E-05	3.152E-04	7.412E-05	2.695E-04
1.300E+00	3.862E-04	1.899E-03	8.046E-05	3.957E-04	9.281E-05	3.623E-04
1.400E+00	4.435E-04	2.343E-03	9.241E-05	4.881E-04	1.141E-04	4.763E-04
1.500E+00	5.036E-04	2.846E-03	1.049E-04	5.930E-04	1.379E-04	6.142E-04
1.600E+00	5.661E-04	3.412E-03	1.179E-04	7.109E-04	1.644E-04	7.786E-04
1.700E+00	6.309E-04	4.043E-03	1.314E-04	8.423E-04	1.936E-04	9.722E-04
1.800E+00	6.977E-04	4.741E-03	1.454E-04	9.877E-04	2.254E-04	1.198E-03
1.900E+00	7.665E-04	5.507E-03	1.597E-04	1.147E-03	2.600E-04	1.458E-03
2.000E+00	8.357E-04	6.343E-03	8.357E-05	1.231E-03	2.873E-04	1.745E-03
2.100E+00	9.004E-04	7.243E-03	9.004E-05	1.321E-03	3.071E-04	2.052E-03
2.200E+00	9.599E-04	8.203E-03	9.599E-05	1.417E-03	3.283E-04	2.380E-03
2.300E+00	1.014E-03	9.218E-03	1.014E-04	1.518E-03	3.507E-04	2.731E-03
2.400E+00	1.064E-03	1.028E-02	1.064E-04	1.625E-03	3.741E-04	3.105E-03
2.500E+00	1.110E-03	1.139E-02	1.110E-04	1.736E-03	3.982E-04	3.503E-03
2.600E+00	1.152E-03	1.254E-02	1.152E-04	1.851E-03	4.228E-04	3.926E-03
2.700E+00	1.191E-03	1.374E-02	1.191E-04	1.970E-03	4.479E-04	4.374E-03
2.800E+00	1.226E-03	1.496E-02	1.226E-04	2.093E-03	4.731E-04	4.847E-03
2.900E+00	1.258E-03	1.622E-02	1.258E-04	2.219E-03	4.985E-04	5.346E-03
3.000E+00	1.288E-03	1.751E-02	1.288E-04	2.347E-03	5.238E-04	5.869E-03
3.100E+00	1.315E-03	1.882E-02	1.315E-04	2.479E-03	5.490E-04	6.418E-03
3.200E+00	1.340E-03	2.016E-02	1.340E-04	2.613E-03	5.741E-04	6.993E-03
3.300E+00	1.362E-03	2.153E-02	1.362E-04	2.749E-03	5.988E-04	7.591E-03
3.400E+00	1.383E-03	2.291E-02	1.383E-04	2.887E-03	6.232E-04	8.215E-03
3.500E+00	1.402E-03	2.431E-02	1.402E-04	3.028E-03	6.472E-04	8.862E-03
3.600E+00	1.419E-03	2.573E-02	1.419E-04	3.170E-03	6.707E-04	9.532E-03
3.700E+00	1.435E-03	2.716E-02	1.435E-04	3.313E-03	6.938E-04	1.023E-02
3.800E+00	1.449E-03	2.861E-02	1.449E-04	3.458E-03	7.163E-04	1.094E-02
3.900E+00	1.462E-03	3.007E-02	1.462E-04	3.604E-03	7.383E-04	1.168E-02
4.000E+00	1.473E-03	3.155E-02	1.473E-04	3.751E-03	7.597E-04	1.244E-02
4.100E+00	1.484E-03	3.303E-02	1.484E-04	3.900E-03	7.805E-04	1.322E-02
4.200E+00	1.493E-03	3.452E-02	1.493E-04	4.049E-03	8.007E-04	1.402E-02
4.300E+00	1.502E-03	3.603E-02	1.502E-04	4.199E-03	8.203E-04	1.484E-02
4.400E+00	1.510E-03	3.754E-02	1.510E-04	4.350E-03	8.393E-04	1.568E-02
4.500E+00	1.517E-03	3.905E-02	1.517E-04	4.502E-03	8.576E-04	1.654E-02
4.600E+00	1.523E-03	4.058E-02	1.523E-04	4.654E-03	8.754E-04	1.741E-02
4.700E+00	1.529E-03	4.211E-02	1.529E-04	4.807E-03	8.925E-04	1.831E-02
4.800E+00	1.534E-03	4.364E-02	1.534E-04	4.961E-03	9.091E-04	1.922E-02
4.900E+00	1.538E-03	4.518E-02	1.538E-04	5.114E-03	9.250E-04	2.014E-02
5.000E+00	1.542E-03	4.672E-02	1.542E-04	5.269E-03	9.403E-04	2.108E-02
5.100E+00	1.545E-03	4.827E-02	1.545E-04	5.423E-03	9.550E-04	2.204E-02
5.200E+00	1.548E-03	4.981E-02	1.548E-04	5.578E-03	9.692E-04	2.301E-02
5.300E+00	1.551E-03	5.136E-02	1.551E-04	5.733E-03	9.828E-04	2.399E-02
5.400E+00	1.553E-03	5.292E-02	1.553E-04	5.888E-03	9.959E-04	2.498E-02
5.500E+00	1.555E-03	5.447E-02	1.555E-04	6.044E-03	1.008E-03	2.599E-02
5.600E+00	1.557E-03	5.603E-02	1.557E-04	6.200E-03	1.020E-03	2.701E-02
5.700E+00	1.558E-03	5.759E-02	1.558E-04	6.355E-03	1.032E-03	2.804E-02
5.800E+00	1.559E-03	5.915E-02	1.559E-04	6.511E-03	1.043E-03	2.909E-02
5.900E+00	1.560E-03	6.071E-02	1.560E-04	6.667E-03	1.053E-03	3.014E-02
6.000E+00	3.111E-02	9.182E-02	3.111E-03	9.778E-03	2.263E-02	5.277E-02
8.000E+00	5.089E-03	9.690E-02	1.963E-04	9.974E-03	3.768E-03	5.654E-02
8.330E+00	5.536E-02	1.523E-01	2.135E-03	1.211E-02	3.078E-02	8.732E-02
1.200E+01	1.051E-01	2.574E-01	4.054E-03	1.616E-02	4.502E-02	1.323E-01
1.940E+01	6.161E-02	3.190E-01	2.376E-03	1.854E-02	2.582E-02	1.582E-01
2.400E+01	5.356E-01	8.546E-01	1.173E-02	3.027E-02	8.462E-02	2.428E-01
7.200E+01	2.203E-01	1.075E+00	4.825E-03	3.510E-02	3.508E-02	2.779E-01
9.600E+01	2.103E+00	3.177E+00	1.612E-02	5.122E-02	1.815E-01	4.594E-01
	TOTAL	3.177E+00	TOTAL	5.122E-02	TOTAL	4.594E-01

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# SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR TEDE DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START	EXCLUSION RADIUS	LOW POPULATION ZONE	CONTROL ROOM
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TIME (HRS)	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.000E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1.333E-01	1.817E-06	1.817E-06	3.785E-07	3.785E-07	3.344E-08	3.344E-08
2.000E-01	1.160E-05	1.342E-05	2.416E-06	2.795E-06	4.166E-07	4.501E-07
3.000E-01	2.596E-05	3.938E-05	5.408E-06	8.203E-06	1.427E-06	1.877E-06
4.000E-01	4.415E-05	8.353E-05	9.199E-06	1.740E-05	3.285E-06	5.162E-06
5.000E-01	6.636E-05	1.499E-04	1.383E-05	3.123E-05	6.171E-06	1.133E-05
6.000E-01	9.433E-05	2.442E-04	1.965E-05	5.088E-05	1.031E-05	2.165E-05
7.000E-01	1.281E-04	3.723E-04	2.668E-05	7.756E-05	1.598E-05	3.763E-05
8.000E-01	1.670E-04	5.393E-04	3.480E-05	1.124E-04	2.343E-05	6.106E-05
9.000E-01	2.108E-04	7.501E-04	4.392E-05	1.563E-04	3.285E-05	9.391E-05
1.000E+00	2.590E-04	1.009E-03	5.396E-05	2.102E-04	4.442E-05	1.383E-04
1.100E+00	3.112E-04	1.320E-03	6.484E-05	2.751E-04	5.829E-05	1.966E-04
1.200E+00	3.671E-04	1.687E-03	7.647E-05	3.516E-04	7.457E-05	2.712E-04
1.300E+00	4.263E-04	2.114E-03	8.881E-05	4.404E-04	9.335E-05	3.645E-04
1.400E+00	4.885E-04	2.602E-03	1.018E-04	5.421E-04	1.147E-04	4.792E-04
1.500E+00	5.536E-04	3.156E-03	1.153E-04	6.575E-04	1.387E-04	6.179E-04
1.600E+00	6.212E-04	3.777E-03	1.294E-04	7.869E-04	1.653E-04	7.832E-04
1.700E+00	6.911E-04	4.468E-03	1.440E-04	9.308E-04	1.946E-04	9.778E-04
1.800E+00	7.631E-04	5.231E-03	1.590E-04	1.090E-03	2.266E-04	1.204E-03
1.900E+00	8.370E-04	6.068E-03	1.744E-04	1.264E-03	2.613E-04	1.466E-03
2.000E+00	9.113E-04	6.979E-03	9.113E-05	1.355E-03	2.887E-04	1.754E-03
2.100E+00	9.804E-04	7.960E-03	9.804E-05	1.453E-03	3.086E-04	2.063E-03
2.200E+00	1.043E-03	9.003E-03	1.043E-04	1.558E-03	3.299E-04	2.393E-03
2.300E+00	1.101E-03	1.010E-02	1.101E-04	1.668E-03	3.524E-04	2.745E-03
2.400E+00	1.153E-03	1.126E-02	1.153E-04	1.783E-03	3.758E-04	3.121E-03
2.500E+00	1.201E-03	1.246E-02	1.201E-04	1.903E-03	4.000E-04	3.521E-03
2.600E+00	1.244E-03	1.370E-02	1.244E-04	2.028E-03	4.247E-04	3.946E-03
2.700E+00	1.284E-03	1.499E-02	1.284E-04	2.156E-03	4.498E-04	4.395E-03
2.800E+00	1.320E-03	1.631E-02	1.320E-04	2.288E-03	4.751E-04	4.871E-03
2.900E+00	1.353E-03	1.766E-02	1.353E-04	2.423E-03	5.006E-04	5.371E-03
3.000E+00	1.383E-03	1.904E-02	1.383E-04	2.562E-03	5.260E-04	5.897E-03
3.100E+00	1.410E-03	2.045E-02	1.410E-04	2.702E-03	5.513E-04	6.448E-03
3.200E+00	1.434E-03	2.189E-02	1.434E-04	2.846E-03	5.763E-04	7.025E-03
3.300E+00	1.457E-03	2.334E-02	1.457E-04	2.992E-03	6.011E-04	7.626E-03
3.400E+00	1.477E-03	2.482E-02	1.477E-04	3.139E-03	6.256E-04	8.251E-03
3.500E+00	1.495E-03	2.631E-02	1.495E-04	3.289E-03	6.496E-04	8.901E-03
3.600E+00	1.512E-03	2.783E-02	1.512E-04	3.440E-03	6.732E-04	9.574E-03
3.700E+00	1.527E-03	2.935E-02	1.527E-04	3.593E-03	6.963E-04	1.027E-02
3.800E+00	1.540E-03	3.089E-02	1.540E-04	3.747E-03	7.188E-04	1.099E-02
3.900E+00	1.552E-03	3.244E-02	1.552E-04	3.902E-03	7.409E-04	1.173E-02
4.000E+00	1.563E-03	3.401E-02	1.563E-04	4.058E-03	7.623E-04	1.249E-02
4.100E+00	1.573E-03	3.558E-02	1.573E-04	4.216E-03	7.831E-04	1.328E-02
4.200E+00	1.582E-03	3.716E-02	1.582E-04	4.374E-03	8.034E-04	1.408E-02
4.300E+00	1.590E-03	3.875E-02	1.590E-04	4.533E-03	8.230E-04	1.490E-02
4.400E+00	1.597E-03	4.035E-02	1.596E-04	4.692E-03	8.420E-04	1.574E-02
4.500E+00	1.603E-03	4.195E-02	1.603E-04	4.853E-03	8.604E-04	1.660E-02
4.600E+00	1.608E-03	4.356E-02	1.608E-04	5.013E-03	8.782E-04	1.748E-02
4.700E+00	1.613E-03	4.517E-02	1.613E-04	5.175E-03	8.953E-04	1.838E-02
4.800E+00	1.617E-03	4.679E-02	1.617E-04	5.336E-03	9.119E-04	1.929E-02
4.900E+00	1.620E-03	4.841E-02	1.620E-04	5.498E-03	9.278E-04	2.022E-02
5.000E+00	1.623E-03	5.003E-02	1.623E-04	5.661E-03	9.431E-04	2.116E-02
5.100E+00	1.626E-03	5.166E-02	1.626E-04	5.823E-03	9.579E-04	2.212E-02
5.200E+00	1.628E-03	5.329E-02	1.628E-04	5.986E-03	9.721E-04	2.309E-02
5.300E+00	1.630E-03	5.492E-02	1.630E-04	6.149E-03	9.857E-04	2.408E-02
5.400E+00	1.631E-03	5.655E-02	1.631E-04	6.312E-03	9.987E-04	2.507E-02
5.500E+00	1.632E-03	5.818E-02	1.632E-04	6.475E-03	1.011E-03	2.609E-02
5.600E+00	1.633E-03	5.981E-02	1.633E-04	6.639E-03	1.023E-03	2.711E-02
5.700E+00	1.633E-03	6.145E-02	1.633E-04	6.802E-03	1.035E-03	2.814E-02
5.800E+00	1.633E-03	6.308E-02	1.633E-04	6.965E-03	1.046E-03	2.919E-02
5.900E+00	1.633E-03	6.471E-02	1.633E-04	7.129E-03	1.056E-03	3.025E-02
6.000E+00	3.243E-02	9.715E-02	3.243E-03	1.037E-02	2.269E-02	5.293E-02
8.000E+00	5.283E-03	1.024E-01	2.109E-04	1.058E-02	3.777E-03	5.671E-02
8.330E+00	5.719E-02	1.596E-01	2.273E-03	1.286E-02	3.084E-02	8.755E-02
1.200E+01	1.076E-01	2.673E-01	4.244E-03	1.710E-02	4.508E-02	1.326E-01
1.940E+01	6.275E-02	3.300E-01	2.462E-03	1.956E-02	2.585E-02	1.585E-01
2.400E+01	5.415E-01	8.715E-01	1.193E-02	3.149E-02	8.467E-02	2.431E-01
7.200E+01	2.219E-01	1.093E+00	4.879E-03	3.637E-02	3.509E-02	2.782E-01
9.600E+01	2.115E+00	3.209E+00	1.627E-02	5.264E-02	1.816E-01	4.598E-01
	TOTAL	3.209E+00	TOTAL	5.264E-02	TOTAL	4.598E-01

1 NO MORE CASES

END OF EXECUTION

## ESF LIQUID LEAKAGE RADTRAD RUN

```
#####
RADTRAD Version 3.02 run on  9/29/2000  at 16:16:37
#####

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

Plant file name      = D:\radtrad 3.02\esf.psf
Inventory file name   = d:\radtrad 3.02\defaults\ggnsloca.nif
Scenario file name    = D:\radtrad 3.02\esf.psf
Release file name     = d:\radtrad 3.02\defaults\esf.rft
Dose conversion file name = d:\radtrad 3.02\defaults\fgr11&12.inp
```

```
#####      #####      #####      # #      # #####      # #      #####
# # #      #      # # #      # #      # #      # #      #
# # #      #      # # #      # #      # #      # #      #
#####      #####      # # #      # #      # #####      # #      #
# #      # #      # #      # #      # #      # #      #
# #      # #      # #      # #      # #      # #      #
# #      # #      # #      # #      # #      # #      #
# #      # #      # #      # #      # #      # #      #
```

```
Radtrad 3.02 1/5/2000
RADTRAD ESF Benchmark
Nuclide Inventory File:
d:\radtrad 3.02\defaults\ggnsloca.nif
Plant Power Level:
3.9100E+03
Compartment:
4
Compartment 1:
Suppression Pool
3
1.7090E+05
0
0
0
0
0
Compartment 2:
Secondary Containment
3
3.0000E+05
0
0
0
0
0
Compartment 3:
Control Room
1
2.5300E+05
0
0
0
0
0
Compartment 4:
Environment
2
0.0000E+00
```

```
0
0
0
0
0
Pathways:
4
Pathway 1:
ESF Leakage
1
2
2
Pathway 2:
SGTS
2
4
2
Pathway 3:
Control Room Inleakage
4
3
2
Pathway 4:
Control Room Exfiltration
3
4
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
1
1 1.0000E+00
d:\radtrad 3.02\defaults\fgrl1&l2.inp
d:\radtrad 3.02\defaults\esf.rft
0.0000E+00
0
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
0
0
Compartment 2:
0
1
0
0
0
0
0
0
0
0
Compartment 3:
```

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Pathways:

4

Pathway 1:

0  
0  
0  
0  
0  
1  
2

0.0000E+00	1.5000E-01	1.0000E+02	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 2:

0  
0  
0  
0  
0  
1  
2

0.0000E+00	4.0010E+03	0.0000E+00	9.8980E+01	9.8980E+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  
2

0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	4.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0  
1  
3  
0.0000E+00 2.0100E+03 0.0000E+00 0.0000E+00 0.0000E+00  
7.2000E+01 4.0100E+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:

EAB

4

1

2

0.0000E+00 6.0000E-04  
7.2000E+02 0.0000E+00

1

2

0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00

0

Location 2:

LPZ

4

1

5

0.0000E+00 1.2500E-04  
2.0000E+00 6.0000E-05  
8.0000E+00 4.5000E-05  
2.4000E+01 2.0000E-05  
9.6000E+01 7.0000E-06

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

3

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

5

0.0000E+00 8.0000E-04  
2.0000E+00 5.0000E-04  
8.0000E+00 2.5000E-04  
2.4000E+01 1.6000E-04  
9.6000E+01 1.3000E-04

Simulation Parameters:

4  
0.0000E+00 1.0000E-02  
2.4000E+01 1.0000E-01  
9.6000E+01 1.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\radtrad 3.o55

1  
1  
1  
0  
0

End of Scenario File

```
#####
RADTRAD Version 3.02 run on  9/29/2000  at 16:16:37
#####

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

Number of Nuclides =  60

Inventory Power =  1.0000E+00 MWth
Plant Power Level =  3.9100E+03 MWth

Number of compartments  =  4

Compartment information

Compartment number  1  (Source term fraction =  1.0000E+00
)
Name: Suppression Pool
Compartment volume =  1.7090E+05 (Cubic feet)
Pathways into and out of compartment  1
    Pathway to compartment number  2: ESF Leakage

Compartment number  2
Name: Secondary Containment
Compartment volume =  3.0000E+05 (Cubic feet)
Pathways into and out of compartment  2
    Pathway to compartment number  4: SGTS
    Pathway from compartment number 1: ESF Leakage

Compartment number  3
Name: Control Room
Compartment volume =  2.5300E+05 (Cubic feet)
Pathways into and out of compartment  3
    Pathway to compartment number  4: Control Room Exfiltration
    Pathway from compartment number 4: Control Room Inleakage

Compartment number  4
Name: Environment
Pathways into and out of compartment  4
    Pathway to compartment number  3: Control Room Inleakage
    Pathway from compartment number 2: SGTS
    Pathway from compartment number 3: Control Room Exfiltration

Total number of pathways =  4
```

#####  
RADTRAD Version 3.02 run on 9/29/2000 at 16:16:37  
#####

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

Radioactive Decay is enabled  
RELEASE\_NAME = ESF Liquid Leakage - Halogens Only  
Release Fractions and Timings

	GAP	EARLY IN-VESSEL
	0.5000 hrs	1.5000 hrs
NOBLES	0.0000E+00	0.0000E+00
IODINE	5.0000E-02	2.5000E-01
CESIUM	0.0000E+00	0.0000E+00
TELLURIUM	0.0000E+00	0.0000E+00
STRONTIUM	0.0000E+00	0.0000E+00
BARIUM	0.0000E+00	0.0000E+00
RUTHENIUM	0.0000E+00	0.0000E+00
CERIUM	0.0000E+00	0.0000E+00
LANTHANUM	0.0000E+00	0.0000E+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: Secondary Containment  
Compartment number 3: Control Room  
Compartment number 4: Environment

#### PATHWAY DATA

Pathway number 1: ESF Leakage

##### Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	1.5000E-01	1.0000E+02	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: SGTS

##### Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	4.0010E+03	0.0000E+00	9.8980E+01	9.8980E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Control Room Inleakage

##### Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	4.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Control Room Exfiltration

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	4.0100E+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 EAB is in compartment 4

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	6.0000E-04
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
7.2000E+02	0.0000E+00

Location LPZ is in compartment 4

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.2500E-04
2.0000E+00	6.0000E-05
8.0000E+00	4.5000E-05
2.4000E+01	2.0000E-05
9.6000E+01	7.0000E-06

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
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 3

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	8.0000E-04
2.0000E+00	5.0000E-04
8.0000E+00	2.5000E-04
2.4000E+01	1.6000E-04
9.6000E+01	1.3000E-04

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
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
2.4000E+01	1.0000E-01
9.6000E+01	1.0000E+00
7.2000E+02	0.0000E+00

```
#####
RADTRAD Version 3.02 run on 9/29/2000 at 16:16:37
#####
```

```
#####
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
#####
```

```
#####
Dose Output
#####
```

EAB Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1376E-05	2.7606E-03	9.8426E-05
Accumulated dose (rem)		1.1376E-05	2.7606E-03	9.8426E-05

LPZ Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3700E-06	5.7513E-04	2.0505E-05
Accumulated dose (rem)		2.3700E-06	5.7513E-04	2.0505E-05

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.9701E-08	2.1317E-04	6.7707E-06
Accumulated dose (rem)		4.9701E-08	2.1317E-04	6.7707E-06

EAB Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.9384E-04	1.7200E-01	5.8921E-03
Accumulated dose (rem)		5.0522E-04	1.7476E-01	5.9905E-03

LPZ Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0288E-04	3.5833E-02	1.2275E-03
Accumulated dose (rem)		1.0525E-04	3.6408E-02	1.2480E-03

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.4262E-06	4.6372E-02	1.4624E-03
Accumulated dose (rem)		7.4759E-06	4.6586E-02	1.4692E-03

EAB Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.2634E-03	2.7310E+00	8.9357E-02
Accumulated dose (rem)		4.7687E-03	2.9058E+00	9.5348E-02

LPZ Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.2634E-04	2.7310E-01	8.9357E-03
Accumulated dose (rem)		5.3160E-04	3.0951E-01	1.0184E-02

Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3821E-04	1.6273E+00	5.0815E-02
Accumulated dose (rem)		1.4568E-04	1.6739E+00	5.2284E-02

EAB Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.4016E-03	7.2680E+00	2.2991E-01
Accumulated dose (rem)		1.0170E-02	1.0174E+01	3.2525E-01

LPZ Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.0512E-04	2.8034E-01	9.0646E-03
Accumulated dose (rem)		9.3672E-04	5.8984E-01	1.9248E-02

Control Room Doses:

Time (h) =	24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4845E-04	3.3791E+00	1.0456E-01
Accumulated dose (rem)		2.9413E-04	5.0529E+00	1.5685E-01

EAB Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7334E-03	1.7337E+01	5.3663E-01
Accumulated dose (rem)		1.5904E-02	2.7511E+01	8.6189E-01

LPZ Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.9111E-04	3.7977E-01	1.1820E-02
Accumulated dose (rem)		1.1278E-03	9.6962E-01	3.1069E-02

Control Room Doses:

Time (h) =	72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.4575E-05	2.8528E+00	8.7422E-02
Accumulated dose (rem)		3.4871E-04	7.9057E+00	2.4427E-01

EAB Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.5835E-03	7.1673E+00	2.2020E-01
Accumulated dose (rem)		1.7487E-02	3.4678E+01	1.0821E+00

LPZ Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.2782E-05	1.5700E-01	4.8415E-03
Accumulated dose (rem)		1.1806E-03	1.1266E+00	3.5910E-02

Control Room Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4477E-05	1.1468E+00	3.4995E-02
Accumulated dose (rem)		3.6318E-04	9.0526E+00	2.7927E-01

EAB Doses:

Time (h) =	720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.2482E-02	6.8679E+01	2.1038E+00
Accumulated dose (rem)		2.9969E-02	1.0336E+02	3.1859E+00

LPZ Doses:

Time (h) =	720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4563E-04	5.2654E-01	1.6179E-02

Accumulated dose (rem) 1.3262E-03 1.6532E+00 5.2089E-02

Control Room Doses:

Time (h) = 720.0000 Whole Body Thyroid TEDE  
Delta dose (rem) 6.1890E-05 5.9587E+00 1.8150E-01  
Accumulated dose (rem) 4.2507E-04 1.5011E+01 4.6077E-01

3749

#####  
I-131 Summary  
#####

Time (hr)	Suppression Pool I-131 (Curies)	Secondary Containment I-131 (Curies)	Control Room I-131 (Curies)
0.001	5.9888E+03	8.7594E-06	1.0047E-14
0.260	2.8001E+06	1.7907E+00	9.4788E-07
0.500	5.3802E+06	6.2261E+00	6.2519E-06
0.750	9.8548E+06	1.4268E+01	2.0096E-05
1.000	1.4321E+07	2.6178E+01	4.7085E-05
1.250	1.8780E+07	4.1242E+01	9.0828E-05
1.500	2.3230E+07	5.8877E+01	1.5358E-04
1.750	2.7672E+07	7.8604E+01	2.3659E-04
2.000	3.2107E+07	1.0003E+02	3.4030E-04
2.250	3.2077E+07	1.2010E+02	4.0269E-04
2.500	3.2048E+07	1.3648E+02	4.7455E-04
2.750	3.2019E+07	1.4984E+02	5.5177E-04
3.000	3.1990E+07	1.6073E+02	6.3126E-04
3.250	3.1961E+07	1.6961E+02	7.1073E-04
3.500	3.1931E+07	1.7683E+02	7.8851E-04
3.750	3.1902E+07	1.8271E+02	8.6344E-04
4.000	3.1873E+07	1.8748E+02	9.3472E-04
4.250	3.1844E+07	1.9135E+02	1.0019E-03
4.500	3.1815E+07	1.9448E+02	1.0646E-03
4.750	3.1786E+07	1.9700E+02	1.1228E-03
5.000	3.1757E+07	1.9903E+02	1.1764E-03
5.250	3.1728E+07	2.0066E+02	1.2257E-03
5.500	3.1700E+07	2.0196E+02	1.2707E-03
5.750	3.1671E+07	2.0298E+02	1.3117E-03
6.000	3.1642E+07	2.0379E+02	1.3489E-03
6.250	3.1613E+07	2.0441E+02	1.3825E-03
6.500	3.1584E+07	2.0489E+02	1.4128E-03
6.750	3.1555E+07	2.0524E+02	1.4400E-03
7.000	3.1527E+07	2.0550E+02	1.4645E-03
7.250	3.1498E+07	2.0567E+02	1.4864E-03
7.500	3.1469E+07	2.0578E+02	1.5059E-03
7.750	3.1441E+07	2.0584E+02	1.5233E-03
8.000	3.1412E+07	2.0585E+02	1.5388E-03
8.250	3.1383E+07	2.0582E+02	1.4586E-03
8.500	3.1355E+07	2.0577E+02	1.3874E-03
8.750	3.1326E+07	2.0569E+02	1.3243E-03
9.000	3.1298E+07	2.0559E+02	1.2683E-03
9.250	3.1269E+07	2.0547E+02	1.2185E-03
9.500	3.1241E+07	2.0535E+02	1.1744E-03
9.750	3.1212E+07	2.0521E+02	1.1351E-03
10.000	3.1184E+07	2.0506E+02	1.1003E-03
10.250	3.1155E+07	2.0491E+02	1.0693E-03
24.000	2.9633E+07	1.9503E+02	7.9255E-04
72.000	2.4876E+07	1.6373E+02	4.2561E-04
96.000	2.2793E+07	1.5001E+02	3.9000E-04
720.000	2.3445E+06	1.5430E+01	3.2592E-05

Time (hr)	Environment I-131 (Curies)
0.001	1.3240E-11
0.260	1.2887E-03
0.500	8.7485E-03
0.750	2.8933E-02
1.000	6.9609E-02

1.250	1.3792E-01
1.500	2.3969E-01
1.750	3.7965E-01
2.000	5.6168E-01
2.250	7.8700E-01
2.500	1.0494E+00
2.750	1.3420E+00
3.000	1.6593E+00
3.250	1.9967E+00
3.500	2.3505E+00
3.750	2.7177E+00
4.000	3.0956E+00
4.250	3.4824E+00
4.500	3.8762E+00
4.750	4.2759E+00
5.000	4.6801E+00
5.250	5.0881E+00
5.500	5.4991E+00
5.750	5.9124E+00
6.000	6.3276E+00
6.250	6.7442E+00
6.500	7.1620E+00
6.750	7.5806E+00
7.000	7.9998E+00
7.250	8.4195E+00
7.500	8.8395E+00
7.750	9.2596E+00
8.000	9.6798E+00
8.250	1.0100E+01
8.500	1.0520E+01
8.750	1.0940E+01
9.000	1.1360E+01
9.250	1.1779E+01
9.500	1.2199E+01
9.750	1.2618E+01
10.000	1.3036E+01
10.250	1.3455E+01
24.000	3.5904E+01
72.000	1.0600E+02
96.000	1.3671E+02
720.000	4.3762E+02

#####  
Cumulative Dose Summary  
#####

Time (hr)	EAB		LPZ		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.001	4.1990E-12	1.5267E-13	8.7479E-13	3.1806E-14	7.4127E-16	2.3625E-17
0.260	4.0763E-04	1.4664E-05	8.4922E-05	3.0550E-06	1.6616E-05	5.2858E-07
0.500	2.7606E-03	9.8426E-05	5.7513E-04	2.0505E-05	2.1317E-04	6.7707E-06
0.750	9.1072E-03	3.2197E-04	1.8973E-03	6.7077E-05	1.0211E-03	3.2384E-05
1.000	2.1857E-02	7.6680E-04	4.5536E-03	1.5975E-04	3.1423E-03	9.9521E-05
1.250	4.3203E-02	1.5053E-03	9.0006E-03	3.1361E-04	7.5550E-03	2.3899E-04
1.500	7.4907E-02	2.5942E-03	1.5606E-02	5.4046E-04	1.5418E-02	4.8719E-04
1.750	1.1838E-01	4.0777E-03	2.4663E-02	8.4953E-04	2.7994E-02	8.8367E-04
2.000	1.7476E-01	5.9905E-03	3.6408E-02	1.2480E-03	4.6586E-02	1.4692E-03
2.250	2.4435E-01	8.3396E-03	4.3367E-02	1.4829E-03	7.0543E-02	2.2230E-03
2.500	3.2515E-01	1.1055E-02	5.1448E-02	1.7545E-03	9.8787E-02	3.1110E-03
2.750	4.1503E-01	1.4063E-02	6.0435E-02	2.0553E-03	1.3177E-01	4.1469E-03
3.000	5.1222E-01	1.7305E-02	7.0155E-02	2.3794E-03	1.6970E-01	5.3374E-03
3.250	6.1530E-01	2.0731E-02	8.0462E-02	2.7221E-03	2.1262E-01	6.6838E-03
3.500	7.2310E-01	2.4303E-02	9.1243E-02	3.0793E-03	2.6045E-01	8.1833E-03
3.750	8.3468E-01	2.7991E-02	1.0240E-01	3.4481E-03	3.1303E-01	9.8304E-03
4.000	9.4926E-01	3.1768E-02	1.1386E-01	3.8258E-03	3.7011E-01	1.1618E-02
4.250	1.0662E+00	3.5615E-02	1.2555E-01	4.2105E-03	4.3144E-01	1.3537E-02
4.500	1.1850E+00	3.9515E-02	1.3743E-01	4.6005E-03	4.9672E-01	1.5579E-02
4.750	1.3053E+00	4.3455E-02	1.4946E-01	4.9944E-03	5.6565E-01	1.7734E-02
5.000	1.4266E+00	4.7423E-02	1.6160E-01	5.3913E-03	6.3793E-01	1.9993E-02

```

5.250 1.5488E+00 5.1412E-02 1.7382E-01 5.7901E-03 7.1327E-01 2.2346E-02
5.500 1.6716E+00 5.5414E-02 1.8610E-01 6.1904E-03 7.9138E-01 2.4785E-02
5.750 1.7949E+00 5.9424E-02 1.9842E-01 6.5913E-03 8.7200E-01 2.7301E-02
6.000 1.9184E+00 6.3437E-02 2.1077E-01 6.9926E-03 9.5486E-01 2.9886E-02
6.250 2.0420E+00 6.7449E-02 2.2313E-01 7.3939E-03 1.0397E+00 3.2533E-02
6.500 2.1657E+00 7.1459E-02 2.3550E-01 7.7948E-03 1.1264E+00 3.5235E-02
6.750 2.2894E+00 7.5463E-02 2.4787E-01 8.1952E-03 1.2147E+00 3.7986E-02
7.000 2.4130E+00 7.9459E-02 2.6024E-01 8.5949E-03 1.3043E+00 4.0780E-02
7.250 2.5365E+00 8.3447E-02 2.7258E-01 8.9937E-03 1.3952E+00 4.3611E-02
7.500 2.6598E+00 8.7425E-02 2.8491E-01 9.3915E-03 1.4872E+00 4.6475E-02
7.750 2.7829E+00 9.1392E-02 2.9722E-01 9.7882E-03 1.5801E+00 4.9367E-02
8.000 2.9058E+00 9.5348E-02 3.0951E-01 1.0184E-02 1.6739E+00 5.2284E-02
8.250 3.0284E+00 9.9292E-02 3.1424E-01 1.0341E-02 1.7654E+00 5.5131E-02
8.500 3.1507E+00 1.0322E-01 3.1896E-01 1.0497E-02 1.8521E+00 5.7828E-02
8.750 3.2728E+00 1.0714E-01 3.2366E-01 1.0653E-02 1.9346E+00 6.0392E-02
9.000 3.3945E+00 1.1105E-01 3.2836E-01 1.0809E-02 2.0133E+00 6.2838E-02
9.250 3.5160E+00 1.1494E-01 3.3304E-01 1.0963E-02 2.0886E+00 6.5179E-02
9.500 3.6371E+00 1.1882E-01 3.3772E-01 1.1118E-02 2.1610E+00 6.7427E-02
9.750 3.7579E+00 1.2269E-01 3.4238E-01 1.1271E-02 2.2306E+00 6.9592E-02
10.000 3.8784E+00 1.2654E-01 3.4703E-01 1.1424E-02 2.2980E+00 7.1683E-02
10.250 3.9986E+00 1.3039E-01 3.5166E-01 1.1577E-02 2.3632E+00 7.3709E-02
24.000 1.0174E+01 3.2525E-01 5.8984E-01 1.9248E-02 5.0529E+00 1.5685E-01
72.000 2.7511E+01 8.6189E-01 9.6962E-01 3.1069E-02 7.9057E+00 2.4427E-01
96.000 3.4678E+01 1.0821E+00 1.1266E+00 3.5910E-02 9.0526E+00 2.7927E-01
720.000 1.0336E+02 3.1859E+00 1.6532E+00 5.2089E-02 1.5011E+01 4.6077E-01

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#####

#### Worst Two-Hour Doses

Note: All of the dose locations are shown below but the worst two-hour dose is only meaningful for the EAB dose location. Please disregard the two-hour worst doses for the other dose locations

#####

#### EAB

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
5.0	1.3433E-03	9.8638E-01	3.2036E-02

#### LPZ

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
5.0	1.3433E-04	9.8638E-02	3.2036E-03

#### Control Room

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
6.3	4.9892E-05	7.2566E-01	2.2597E-02

## ESF LIQUID LEAKAGE RAPTOR RUN

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT      OO      2.08B      OO      RRRRRRRR
RRRRRRR      AA      AA      PPPPPP      TT      OO      OO      RRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OOOOOOO      RR      RR
RR      RR      AA      AA      PP      TT      OOO      RR      RR

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IIIIIIIIII NN      NN PPPPPP      UU      UU      TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPPP      UU      UU      TTTTTTTTTT
II      NNNN      NN      PP      PP      UU      UU      TT
II      NN      NN      NN      PP      PP      UU      UU      TT
II      NN      NN      NN      PP      PP      UU      UU      TT
II      NN      NN      NN      PPPPPPPP      UU      UU      TT
II      NN      NN      NN      PPPPPP      UU      UU      TT
II      NN      NN      NN      PP      UU      UU      TT
II      NN      NN      NN      PP      UUU      UUU      TT
IIIIIIIIII NN      NNN      PP      UUUUUUUU      TT
IIIIIIIIII NN      NN      PP      UU      TT

```

Execution Time: 16:40:01 on 09/29/00

### MODELED NUCLIDE PARAMETERS

Isotope	Group	Half-Life		Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Br-82	Halogens	1.4710E+000	Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000	Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001	Min	3.4817E-001	5.2910E+000	8.3990E+001
I-131	Halogens	8.0400E+000	Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000	Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001	Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001	Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000	Hrs	3.0688E-001	3.1302E+004	1.2284E+003

### MODEL PARAMETERS

Core Power Level = 3910.00 MW  
Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

### NODE PARAMETERS

Name	Volume (cu.ft.)	
SuppPool	1.710E+005	Inventory Tracked
SecCont	3.000E+005	Inventory Tracked
ContRm	2.530E+005	Inventory Tracked
OutofCR	1.000E+000	Inventory Not Tracked

### RELEASE POINTS

Name  
SGTS\_Vent

### RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

### INITIAL INVENTORIES

Br-82	Core	1.9500E+002 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
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Br-83	Core	3.5220E+003 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
Br-84	Core	6.1990E+003 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
I-131	Core	2.7570E+004 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
I-132	Core	3.9770E+004 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
I-133	Core	5.5140E+004 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
I-134	Core	6.0740E+004 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate
I-135	Core	5.1530E+004 Ci/MW	0.9700 elemental	0.0300 organic	0.0000 particulate

#### RELEASE PARAMETERS

0.000E+000 Sec to 5.000E-001 Hrs	SuppPool	Halogens	5.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs	SuppPool	Halogens	2.5000E+001 percent

#### FLOW PARAMETERS

Flow#1 from SuppPool to SecCont  
1.000E+001 Min to 3.000E+001 Dys at 1.5000E-001 cfm

Flow#2 from SecCont to SGTS\_Vent  
0.000E+000 Sec to 3.000E+001 Dys at 4.0010E+003 cfm

Flow#3 from CR\_Intake to Contrm  
0.000E+000 Sec to 7.200E+001 Hrs at 2.0100E+003 cfm  
7.200E+001 Hrs to 3.000E+001 Dys at 4.0100E+003 cfm

Flow#4 from Contrm to OutofCR  
0.000E+000 Sec to 7.200E+001 Hrs at 2.0100E+003 cfm  
7.200E+001 Hrs to 3.000E+001 Dys at 4.0100E+003 cfm

#### FILTER PARAMETERS

Flash\_Fract on Flow#1 is Not Tracked  
0.000E+000 Sec to 3.000E+001 Dys at Halogens Elemental 0.900000  
0.000E+000 Sec to 3.000E+001 Dys at Halogens Organic 0.900000

SGTS\_Charcoal on Flow#2 is Not Tracked  
0.000E+000 Sec to 3.000E+001 Dys at Halogens Elemental 0.989750  
0.000E+000 Sec to 3.000E+001 Dys at Halogens Organic 0.989750

#### REMOVAL PARAMETERS

No Removal Mechanisms

#### DIFFUSION PARAMETERS

Diffusion from SGTS\_Vent to EAB  
0.000E+000 Sec to 3.000E+001 Dys at 6.0000E-004 s/cu.m.

Diffusion from SGTS\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 4.5000E-005 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 2.0000E-005 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 7.0000E-006 s/cu.m.

Diffusion from SGTS\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 5.0000E-004 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 2.5000E-004 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 1.6000E-004 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 1.3000E-004 s/cu.m.

#### DOSE LOCATIONS

EAB  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

LPZ  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
8.000E+000 Hrs to 1.000E+000 Dys at Breathing Rate=1.8000E-004 cu.m./s  
1.000E+000 Dys to 3.000E+001 Dys at Breathing Rate=2.3000E-004 cu.m./s

0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

ContRm

0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000

1.000E+000 Dys to 4.000E+000 Dys at Occupancy Factor=0.600000

4.000E+000 Dys to 3.000E+001 Dys at Occupancy Factor=0.400000

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT      OO      2.08B      OO      RRRRRRRR
RRRRRRRR      AA      AA      PPPPPP      TT      OO      OO      RRRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OOOOOOO      RR      RR
RR      RR      AA      AA      PP      TT      OOO      RR      RR

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      OOO      UU      UU      TTTTTTTTTT      PPPPPP      UU      UU      TTTTTTTTTT
      OOOOOOO      UU      UU      TTTTTTTTTT      PPPPPPPP      UU      UU      TTTTTTTTTT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PPPPPPPP      UU      UU      TT
      OO      OO      UU      UU      TT      PPPPPP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      UU      UU      TT
      OO      OO      UUU      UUU      TT      PP      UUU      UUU      TT
      OOOOOOO      UUUUUUU      TT      PP      UUUUUUU      TT
      OOO      UU      TT      PP      UU      TT

```

Time = -121.000000 Seconds  
ClockTime = 0.761000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000000	0.000000	0.000000	0.000000
LPZ	0.000000	0.000000	0.000000	0.000000
ContRm	0.000000	0.000000	0.000000	0.000000

Isotope	Core	SuppPool	SecCont	ContRm
Br-82E	7.395765E+005	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	2.287350E+004	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	1.335789E+007	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	4.131306E+005	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	2.351095E+007	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	7.271427E+005	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	1.045647E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	3.233961E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-132E	1.508357E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	4.665021E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	2.091295E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	6.467922E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	2.303686E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	7.124802E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	1.954378E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	6.044469E+006	0.000000E+000	0.000000E+000	0.000000E+000

Time = 0.000000 Seconds  
ClockTime = 0.901000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000000	0.000000	0.000000	0.000000
LPZ	0.000000	0.000000	0.000000	0.000000
ContRm	0.000000	0.000000	0.000000	0.000000

Isotope	Core	SuppPool	SecCont	ContRm
Br-82E	7.390886E+005	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	2.285841E+004	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	1.322885E+007	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	4.091396E+005	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	2.249985E+007	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	6.958717E+005	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	1.045521E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	3.233570E+006	0.000000E+000	0.000000E+000	0.000000E+000

I-132E	1.493023E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	4.617596E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	2.088954E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	6.460681E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	2.243272E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	6.937954E+006	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	1.947460E+008	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	6.023073E+006	0.000000E+000	0.000000E+000	0.000000E+000

Time = 600.000000 Seconds  
ClockTime = 1.281000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000000	0.000000	0.000000	0.000000
LPZ	0.000000	0.000000	0.000000	0.000000
ContRm	0.000000	0.000000	0.000000	0.000000

Isotope	Core	SuppPool	SecCont	ContRm
Br-82E	7.366741E+005	1.227794E+004	0.000000E+000	0.000000E+000
Br-82O	2.278373E+004	3.797299E+002	0.000000E+000	0.000000E+000
Br-83E	1.260716E+007	2.101277E+005	0.000000E+000	0.000000E+000
Br-83O	3.899121E+005	6.498795E+003	0.000000E+000	0.000000E+000
Br-84E	1.809323E+007	3.016086E+005	0.000000E+000	0.000000E+000
Br-84O	5.595845E+005	9.328102E+003	0.000000E+000	0.000000E+000
I-131E	1.044895E+008	1.741493E+006	0.000000E+000	0.000000E+000
I-131O	3.231635E+006	5.386061E+004	0.000000E+000	0.000000E+000
I-132E	1.419258E+008	2.365530E+006	0.000000E+000	0.000000E+000
I-132O	4.389457E+006	7.316070E+004	0.000000E+000	0.000000E+000
I-133E	2.077384E+008	3.462322E+006	0.000000E+000	0.000000E+000
I-133O	6.424898E+006	1.070821E+005	0.000000E+000	0.000000E+000
I-134E	1.966309E+008	3.277542E+006	0.000000E+000	0.000000E+000
I-134O	6.081369E+006	1.013673E+005	0.000000E+000	0.000000E+000
I-135E	1.913516E+008	3.189240E+006	0.000000E+000	0.000000E+000
I-135O	5.918091E+006	9.863630E+004	0.000000E+000	0.000000E+000

Time = 1800.000000 Seconds  
ClockTime = 1.762000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000009	0.002086	0.000066	0.000074
LPZ	0.000002	0.000435	0.000014	0.000015
ContRm	0.000000	0.000130	0.000004	0.000004

Isotope	Core	SuppPool	SecCont	ContRm
Br-82E	7.318686E+005	3.659310E+004	3.839536E-002	3.251321E-008
Br-82O	2.263511E+004	1.131745E+003	1.187485E-003	1.005563E-009
Br-83E	1.145005E+007	5.725189E+005	6.007387E-001	5.087628E-007
Br-83O	3.541253E+005	1.770677E+004	1.857955E-002	1.573493E-008
Br-84E	1.170009E+007	5.851038E+005	6.140308E-001	5.202407E-007
Br-84O	3.618584E+005	1.809599E+004	1.899064E-002	1.608992E-008
I-131E	1.043645E+008	5.218167E+006	5.475156E+000	4.636334E-006
I-131O	3.227768E+006	1.613866E+005	1.693347E-001	1.433918E-007
I-132E	1.282481E+008	6.412603E+006	6.728698E+000	5.698539E-006
I-132O	3.966437E+006	1.983279E+005	2.081040E-001	1.762435E-007
I-133E	2.054436E+008	1.027211E+007	1.077804E+001	9.126902E-006
I-133O	6.353924E+006	3.176940E+005	3.333415E-001	2.822753E-007
I-134E	1.510747E+008	7.554477E+006	7.927394E+000	6.715078E-006
I-134O	4.672414E+006	2.336436E+005	2.451771E-001	2.076828E-007
I-135E	1.847393E+008	9.236990E+006	9.692040E+000	8.207517E-006
I-135O	5.713585E+006	2.856801E+005	2.997538E-001	2.538407E-007

Time = 7200.000000 Seconds  
ClockTime = 3.675000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000499	0.173238	0.005439	0.005938
LPZ	0.000104	0.036091	0.001133	0.001237
ContRm	0.000007	0.045619	0.001432	0.001439

Isotope	SuppPool	SecCont	ContRm
Br-82E	2.131791E+005	6.627604E-001	2.249117E-006
Br-82O	6.593166E+003	2.049774E-002	6.956032E-008
Br-83E	2.227315E+006	6.924841E+000	2.350250E-005
Br-83O	6.888601E+004	2.141703E-001	7.268813E-007
Br-84E	4.936245E+005	1.534922E+000	5.211648E-006
Br-84O	1.526674E+004	4.747182E-002	1.611850E-007
I-131E	3.113962E+007	9.681092E+001	3.285315E-004
I-131O	9.630810E+005	2.994152E+000	1.016077E-005
I-132E	2.438506E+007	7.581461E+001	2.573119E-004
I-132O	7.541769E+005	2.344782E+000	7.958100E-006
I-133E	5.862543E+007	1.822631E+002	6.185245E-004
I-133O	1.813158E+006	5.637004E+000	1.912962E-005
I-134E	1.384425E+007	4.304553E+001	1.461245E-004
I-134O	4.281728E+005	1.331305E+000	4.519315E-006
I-135E	4.730833E+007	1.470804E+002	4.991441E-004
I-135O	1.463144E+006	4.548879E+000	1.543744E-005

Time = 28800.000000 Seconds  
ClockTime = 10.274000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.004757	2.911279	0.090769	0.095525
LPZ	0.000530	0.309895	0.009666	0.010196
ContRm	0.000145	1.675607	0.052202	0.052347

Isotope	SuppPool	SecCont	ContRm
Br-82E	1.894290E+005	1.240948E+000	9.316003E-006
Br-82O	5.858630E+003	3.837982E-002	2.881238E-007
Br-83E	3.936130E+005	2.578651E+000	1.936054E-005
Br-83O	1.217360E+004	7.975207E-002	5.987794E-007
Br-84E	1.929180E+002	1.264030E-003	9.494378E-009
Br-84O	5.966535E+000	3.909370E-005	2.936406E-010
I-131E	3.046602E+007	1.995821E+002	1.498287E-003
I-131O	9.422481E+005	6.172643E+000	4.633876E-005
I-132E	3.933710E+006	2.577071E+001	1.934880E-004
I-132O	1.216611E+005	7.970322E-001	5.984164E-006
I-133E	4.798586E+007	3.143554E+002	2.359933E-003
I-133O	1.484099E+006	9.722332E+000	7.298761E-005
I-134E	1.204622E+005	7.892313E-001	5.926796E-006
I-134O	3.725636E+003	2.440921E-002	1.833030E-007
I-135E	2.511234E+007	1.645126E+002	1.235068E-003
I-135O	7.766704E+005	5.088020E+000	3.819799E-005

Time = 86400.000000 Seconds  
ClockTime = 27.379000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.010182	10.201086	0.315984	0.326166
LPZ	0.000937	0.591074	0.018353	0.019290
ContRm	0.000294	5.064587	0.156941	0.157235

Isotope	SuppPool	SecCont	ContRm
Br-82E	1.382458E+005	9.095919E-001	3.713316E-006
Br-82O	4.275644E+003	2.813171E-002	1.148448E-007
Br-83E	3.871123E+003	2.547111E-002	1.039949E-007
Br-83O	1.197255E+002	7.877662E-004	3.216336E-009
I-131E	2.874014E+007	1.890961E+002	7.719603E-004
I-131O	8.888703E+005	5.848332E+000	2.387506E-005
I-132E	3.033509E+004	1.995984E-001	8.149367E-007
I-132O	9.381986E+002	6.173146E-003	2.520422E-008

I-133E	2.813105E+007	1.850893E+002	7.556125E-004
I-133O	8.700324E+005	5.724411E+000	2.336946E-005
I-134E	3.858348E-001	2.538882E-006	1.036806E-011
I-134O	1.193303E-002	7.852211E-008	3.206615E-013
I-135E	4.638948E+006	3.052244E+001	1.246092E-004
I-135O	1.434726E+005	9.439929E-001	3.853893E-006

Time = 259200.000000 Seconds  
ClockTime = 78.713000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.015984	27.591274	0.848565	0.864549
LPZ	0.001130	0.972002	0.030019	0.031149
ContRm	0.000349	7.926035	0.244584	0.244934

Isotope	SuppPool	SecCont	ContRm
Br-82E	5.373637E+004	3.535598E-001	9.233863E-007
Br-82O	1.661950E+003	1.093484E-002	2.855834E-008
Br-83E	3.682476E-003	2.422985E-008	6.328779E-014
Br-83O	1.138910E-004	7.493767E-010	1.957354E-015
I-131E	2.412728E+007	1.587457E+002	4.145907E-004
I-131O	7.462045E+005	4.909661E+000	1.282239E-005
I-132E	1.391151E-002	9.153473E-008	2.390881E-013
I-132O	4.302528E-004	2.830971E-009	7.394475E-015
I-133E	5.667660E+006	3.729059E+001	9.739176E-005
I-133O	1.752885E+005	1.153317E+000	3.012116E-006
I-135E	2.924261E+004	1.924048E-001	5.025184E-007
I-135O	9.044107E+002	5.950664E-003	1.554181E-008

Time = 345600.000000 Seconds  
ClockTime = 104.950000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.017588	34.779999	1.067852	1.085440
LPZ	0.001183	1.129469	0.034822	0.036006
ContRm	0.000364	9.076302	0.279672	0.280036

Isotope	SuppPool	SecCont	ContRm
Br-82E	3.350245E+004	2.204302E-001	5.756242E-007
Br-82O	1.036158E+003	6.817428E-003	1.780281E-008
Br-83E	3.591628E-006	2.363209E-011	6.171899E-017
I-131E	2.210640E+007	1.454493E+002	3.798191E-004
I-131O	6.837032E+005	4.498432E+000	1.174698E-005
I-132E	9.420818E-006	6.198696E-011	1.618899E-016
I-133E	2.543975E+006	1.673818E+001	4.370978E-005
I-133O	7.867962E+004	5.176756E-001	1.351849E-006
I-135E	2.321745E+003	1.527616E-002	3.989310E-008
I-135O	7.180654E+001	4.724586E-004	1.233807E-009

Time = 2592000.000000 Seconds  
ClockTime = 741.876000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.030112	103.559992	3.162233	3.192345
LPZ	0.001330	1.656782	0.050879	0.052209
ContRm	0.000426	15.043518	0.461377	0.461803

Isotope	SuppPool	SecCont	ContRm
Br-82E	1.549134E-001	1.019256E-006	2.162593E-012
Br-82O	4.791134E-003	3.152339E-008	6.688432E-014
I-131E	2.273898E+006	1.496114E+001	3.174338E-005
I-131O	7.032674E+004	4.627156E-001	9.817538E-007
I-133E	2.292691E-003	1.508485E-008	3.200625E-014
I-133O	7.090798E-005	4.665417E-010	9.898841E-016

# MSIV LEAKAGE TRANSACT RUN

1 TRANSACT Version 2.0, Revision 0  
Based on TACT V  
SEP 87 PC VERSION  
REVISED TO VERSION 2 - JANUARY 1999  
BY GGNS SAFETY ANALYSIS  
  
MODIFIED FALL 1992 FOR GGNS  
BY OMEGA TECHNICAL SERVICES, INC.  
  
NUCLEAR REGULATORY COMMISSION  
ACCIDENT EVALUATION BRANCH  
DATE 9/24/ 0 TIME 10:42:44  
  
MODEL SUMMARY FOR CASE 1

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
MSIV Leakage Dose Calculation  
Input File: MSIV.TXT Output File: MSIV.OUT  
No CR Fresh Air charcoal, No CR auto isolation, CR Inleakage = 2010 cfm  
MSIV Leakage 100 scfh max line, 250 scfh total

TIME INDEPENDENT INPUT  
CASE NUMBER 1

NODES NSTEP  
3 80

OUTPUT CONTROL PARAMETER  
I 1 2 3 4 5  
IPRINT(I) 0 0 0 1 0

NUMBER OF DOSE EVALUATION POINTS - 3

POWER (MWT) REACTOR SHUTDOWN TIME (HRS)  
3.910E+03 3.361E-02

FRACTION OF ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

PLATEOUT FACTOR FOR ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

FRACTION OF CORE INVENTORY AIRBORNE IN THE CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ISOTOPIC SPLIT BY GROUP			
	ELEM.	ORG.	PART.
NOBLES	1.000E+00	0.000E+00	0.000E+00
HALOGENS	4.850E-02	1.500E-03	9.500E-01
ALKMETAL	0.000E+00	0.000E+00	1.000E+00
TELLURM	0.000E+00	0.000E+00	0.000E+00
BARSTRNT	0.000E+00	0.000E+00	0.000E+00
NOBMETAL	0.000E+00	0.000E+00	0.000E+00
LANTHANM	0.000E+00	0.000E+00	0.000E+00
CERIUM	0.000E+00	0.000E+00	0.000E+00

VOLUME OF NODES (CU FT)		
Drywell	Contmnt	MSIV_Vol
2.700E+05	1.400E+06	4.337E+02

CONTROL ROOM VOLUME (CU FT)  
2.530E+05

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE NAME	SPLIT	GROUP	SOURCE (CI/MWT)	DECAY CONST (1/HR)	DOSE CONVERSION FACTORS		
					WHOLEBDY	THYROID	INHALATN
BR 82	ELEM.	HALOGENS	9.45750E+00	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	ORG.	HALOGENS	2.92500E-01	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	PART.	HALOGENS	1.85250E+02	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 83	ELEM.	HALOGENS	1.70817E+02	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	ORG.	HALOGENS	5.28300E+00	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	PART.	HALOGENS	3.34590E+03	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 84	ELEM.	HALOGENS	3.00652E+02	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	ORG.	HALOGENS	9.29850E+00	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	PART.	HALOGENS	5.88905E+03	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
KR 85	ELEM.	NOBLES	3.88000E+02	7.37614E-06	4.40300E-04	0.00000E+00	0.00000E+00
KR 85M	ELEM.	NOBLES	9.11000E+03	1.54720E-01	2.76760E-02	0.00000E+00	0.00000E+00
KR 87	ELEM.	NOBLES	1.65700E+04	5.45070E-01	1.52440E-01	0.00000E+00	0.00000E+00
KR 88	ELEM.	NOBLES	2.23600E+04	2.44066E-01	3.77400E-01	0.00000E+00	0.00000E+00
RB 86	PART.	ALKMETAL	7.37600E+01	1.54776E-03	1.77970E-02	4.92100E+03	6.62300E+03
I 131	ELEM.	HALOGENS	1.33715E+03	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	ORG.	HALOGENS	4.13550E+01	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	PART.	HALOGENS	2.61915E+04	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 132	ELEM.	HALOGENS	1.92885E+03	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	ORG.	HALOGENS	5.96550E+01	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	PART.	HALOGENS	3.77815E+04	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 133	ELEM.	HALOGENS	2.67429E+03	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	ORG.	HALOGENS	8.27100E+01	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	PART.	HALOGENS	5.23830E+04	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 134	ELEM.	HALOGENS	2.94589E+03	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	ORG.	HALOGENS	9.11100E+01	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	PART.	HALOGENS	5.77030E+04	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 135	ELEM.	HALOGENS	2.49921E+03	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	ORG.	HALOGENS	7.72950E+01	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	PART.	HALOGENS	4.89535E+04	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
XE 133	ELEM.	NOBLES	5.42500E+04	5.50641E-03	5.77200E-03	0.00000E+00	0.00000E+00
XE 135	ELEM.	NOBLES	2.15400E+04	7.62538E-02	4.40300E-02	0.00000E+00	0.00000E+00
CS 134	PART.	ALKMETAL	8.19400E+03	3.83473E-05	2.80090E-01	4.10700E+04	4.62500E+04
CS 136	PART.	ALKMETAL	2.40400E+03	2.20467E-03	3.92200E-01	6.40100E+03	7.32600E+03
CS 137	PART.	ALKMETAL	4.19700E+03	2.63574E-06	1.00825E-01	2.93410E+04	3.19310E+04
CS 138	PART.	ALKMETAL	5.10200E+04	1.29132E+00	4.47700E-01	1.32090E+01	1.01380E+02

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	0.00000E+00	1.00000E-01
RELEASE FRACTION	1	0	0	0	1	1.00000E-01	
RELEASE FRACTION	2	0	0	0	1	1.00000E-01	
RELEASE FRACTION	3	0	0	0	1	1.00000E-01	
TRANSFER PERCENT	0	0	0	1	4	9.20900E-01	0.00000E+00
1.60000E+03	1.38100E+00						
TRANSFER PERCENT	0	0	0	3	1	2.00000E-04	
REMOVAL RATE	2	1	0	0	1	8.66000E-01	
REMOVAL RATE	2	3	0	0	1	7.47400E-01	
REMOVAL RATE	3	3	0	0	1	7.47400E-01	
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00	1.00000E+00					
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.47000E-04
1.25000E-04	3.47000E-04	8.00000E-04				3.47000E-04	0.00000E+00
TIME INTERVAL	0	0	0	0	2	1.00000E-01	2.00000E-01
TIME INTERVAL	0	0	0	0	2	2.00000E-01	3.00000E-01
TIME INTERVAL	0	0	0	0	2	3.00000E-01	4.00000E-01
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	4.00000E+03	1.00000E+00					
CR FILTER EFF	2	1	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	2	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	3	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	4	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	5	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	6	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	7	3	0	0	2	9.90000E+01	0.00000E+00
CR FILTER EFF	8	3	0	0	2	9.90000E+01	0.00000E+00
TRANSFER PERCENT	0	0	0	1	4	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00						
TRANSFER PERCENT	0	0	0	3	1	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	4.00000E-01	5.00000E-01

TIME INTERVAL	0	0	0	0	2	5.00000E-01	6.00000E-01
TIME INTERVAL	0	0	0	0	2	6.00000E-01	7.00000E-01
TIME INTERVAL	0	0	0	0	2	7.00000E-01	8.00000E-01
TIME INTERVAL	0	0	0	0	2	8.00000E-01	9.00000E-01
TIME INTERVAL	0	0	0	0	2	9.00000E-01	1.00000E+00
TIME INTERVAL	0	0	0	0	2	1.00000E+00	1.10000E+00
TIME INTERVAL	0	0	0	0	2	1.10000E+00	1.20000E+00
TIME INTERVAL	0	0	0	0	2	1.20000E+00	1.30000E+00
TIME INTERVAL	0	0	0	0	2	1.30000E+00	1.40000E+00
TIME INTERVAL	0	0	0	0	2	1.40000E+00	1.50000E+00
TIME INTERVAL	0	0	0	0	2	1.50000E+00	1.60000E+00
TIME INTERVAL	0	0	0	0	2	1.60000E+00	1.70000E+00
TIME INTERVAL	0	0	0	0	2	1.70000E+00	1.80000E+00
TIME INTERVAL	0	0	0	0	2	1.80000E+00	1.90000E+00
TIME INTERVAL	0	0	0	0	2	1.90000E+00	2.00000E+00
TIME INTERVAL	0	0	0	0	2	2.00000E+00	2.10000E+00
TIME INTERVAL	0	0	0	0	2	2.10000E+00	2.20000E+00
TIME INTERVAL	0	0	0	0	2	2.20000E+00	2.30000E+00
TIME INTERVAL	0	0	0	0	2	2.30000E+00	2.40000E+00
TIME INTERVAL	0	0	0	0	2	2.40000E+00	2.50000E+00
TIME INTERVAL	0	0	0	0	2	2.50000E+00	2.60000E+00
TIME INTERVAL	0	0	0	0	2	2.60000E+00	2.70000E+00
TIME INTERVAL	0	0	0	0	2	2.70000E+00	2.80000E+00
TIME INTERVAL	0	0	0	0	2	2.80000E+00	2.90000E+00

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	2.90000E+00	3.00000E+00
TIME INTERVAL	0	0	0	0	2	3.00000E+00	3.10000E+00
TIME INTERVAL	0	0	0	0	2	3.10000E+00	3.20000E+00
TIME INTERVAL	0	0	0	0	2	3.20000E+00	3.30000E+00
TIME INTERVAL	0	0	0	0	2	3.30000E+00	3.40000E+00
TIME INTERVAL	0	0	0	0	2	3.40000E+00	3.50000E+00
TIME INTERVAL	0	0	0	0	2	3.50000E+00	3.60000E+00
TIME INTERVAL	0	0	0	0	2	3.60000E+00	3.70000E+00
TIME INTERVAL	0	0	0	0	2	3.70000E+00	3.80000E+00
TIME INTERVAL	0	0	0	0	2	3.80000E+00	3.90000E+00
TIME INTERVAL	0	0	0	0	2	3.90000E+00	4.00000E+00
TIME INTERVAL	0	0	0	0	2	4.00000E+00	4.10000E+00
TIME INTERVAL	0	0	0	0	2	4.10000E+00	4.20000E+00
TIME INTERVAL	0	0	0	0	2	4.20000E+00	4.30000E+00
TIME INTERVAL	0	0	0	0	2	4.30000E+00	4.40000E+00
TIME INTERVAL	0	0	0	0	2	4.40000E+00	4.50000E+00
TIME INTERVAL	0	0	0	0	2	4.50000E+00	4.60000E+00
TIME INTERVAL	0	0	0	0	2	4.60000E+00	4.70000E+00
TIME INTERVAL	0	0	0	0	2	4.70000E+00	4.80000E+00
TIME INTERVAL	0	0	0	0	2	4.80000E+00	4.90000E+00
TIME INTERVAL	0	0	0	0	2	4.90000E+00	5.00000E+00
TIME INTERVAL	0	0	0	0	2	5.00000E+00	5.10000E+00
TIME INTERVAL	0	0	0	0	2	5.10000E+00	5.20000E+00
TIME INTERVAL	0	0	0	0	2	5.20000E+00	5.30000E+00
TIME INTERVAL	0	0	0	0	2	5.30000E+00	5.40000E+00
TIME INTERVAL	0	0	0	0	2	5.40000E+00	5.50000E+00
TIME INTERVAL	0	0	0	0	2	5.50000E+00	5.60000E+00
TIME INTERVAL	0	0	0	0	2	5.60000E+00	5.70000E+00
TIME INTERVAL	0	0	0	0	2	5.70000E+00	5.80000E+00
TIME INTERVAL	0	0	0	0	2	5.80000E+00	5.90000E+00
TIME INTERVAL	0	0	0	0	2	5.90000E+00	6.00000E+00
TIME INTERVAL	0	0	0	0	2	6.00000E+00	6.10000E+00
TIME INTERVAL	0	0	0	0	2	6.10000E+00	6.20000E+00
TIME INTERVAL	0	0	0	0	2	6.20000E+00	6.30000E+00
TIME INTERVAL	0	0	0	0	2	6.30000E+00	6.40000E+00
TIME INTERVAL	0	0	0	0	2	6.40000E+00	6.50000E+00
TIME INTERVAL	0	0	0	0	2	6.50000E+00	6.60000E+00
TIME INTERVAL	0	0	0	0	2	6.60000E+00	6.70000E+00
TIME INTERVAL	0	0	0	0	2	6.70000E+00	6.80000E+00
TIME INTERVAL	0	0	0	0	2	6.80000E+00	6.90000E+00
TIME INTERVAL	0	0	0	0	2	6.90000E+00	7.00000E+00
TIME INTERVAL	0	0	0	0	2	7.00000E+00	7.10000E+00
TIME INTERVAL	0	0	0	0	2	7.10000E+00	7.20000E+00
TIME INTERVAL	0	0	0	0	2	7.20000E+00	7.30000E+00
TIME INTERVAL	0	0	0	0	2	7.30000E+00	7.40000E+00
TIME INTERVAL	0	0	0	0	2	7.40000E+00	7.50000E+00
TIME INTERVAL	0	0	0	0	2	7.50000E+00	7.60000E+00
TIME INTERVAL	0	0	0	0	2	7.60000E+00	7.70000E+00
TIME INTERVAL	0	0	0	0	2	7.70000E+00	7.80000E+00

TIME INTERVAL	0	0	0	0	2	7.80000E+00	7.90000E+00
TIME INTERVAL	0	0	0	0	2	7.90000E+00	8.00000E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR WHOLEBDY DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS EACH STEP	ACCUM.	LOW POPULATION ZONE EACH STEP	ACCUM.	CONTROL ROOM EACH STEP	ACCUM.
0.000E+00	4.631E-02	4.631E-02	9.647E-03	9.647E-03	8.121E-05	8.121E-05
1.000E-01	1.281E-01	1.744E-01	2.668E-02	3.633E-02	3.762E-04	4.574E-04
2.000E-01	1.958E-01	3.702E-01	4.080E-02	7.712E-02	9.000E-04	1.357E-03
3.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.102E-03	2.459E-03
4.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	9.228E-04	3.382E-03
5.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	7.759E-04	4.158E-03
6.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	6.551E-04	4.813E-03
7.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.553E-04	5.368E-03
8.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.726E-04	5.841E-03
9.000E-01	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.039E-04	6.245E-03
1.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.466E-04	6.591E-03
1.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.985E-04	6.890E-03
1.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.582E-04	7.148E-03
1.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.241E-04	7.372E-03
1.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.953E-04	7.567E-03
1.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.708E-04	7.738E-03
1.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.499E-04	7.888E-03
1.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.321E-04	8.020E-03
1.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.167E-04	8.137E-03
1.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.035E-04	8.241E-03
2.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	9.205E-05	8.333E-03
2.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	8.212E-05	8.415E-03
2.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	7.348E-05	8.488E-03
2.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	6.592E-05	8.554E-03
2.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.930E-05	8.613E-03
2.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.347E-05	8.667E-03
2.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.834E-05	8.715E-03
2.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.379E-05	8.759E-03
2.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.976E-05	8.799E-03
2.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.617E-05	8.835E-03
3.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.297E-05	8.868E-03
3.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.011E-05	8.898E-03
3.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.754E-05	8.926E-03
3.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.523E-05	8.951E-03
3.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.315E-05	8.974E-03
3.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.127E-05	8.995E-03
3.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.957E-05	9.015E-03
3.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.803E-05	9.033E-03
3.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.663E-05	9.049E-03
3.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.535E-05	9.065E-03
4.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.419E-05	9.079E-03
4.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.313E-05	9.092E-03
4.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.215E-05	9.104E-03
4.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.126E-05	9.115E-03
4.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.045E-05	9.126E-03
4.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	9.696E-06	9.136E-03
4.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	9.006E-06	9.145E-03
4.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	8.371E-06	9.153E-03
4.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	7.785E-06	9.161E-03
4.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	7.244E-06	9.168E-03
5.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	6.745E-06	9.175E-03
5.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	6.283E-06	9.181E-03
5.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.856E-06	9.187E-03
5.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.460E-06	9.192E-03
5.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	5.093E-06	9.197E-03
5.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.753E-06	9.202E-03
5.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.437E-06	9.207E-03
5.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	4.144E-06	9.211E-03
5.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.871E-06	9.215E-03
5.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.618E-06	9.218E-03
6.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.382E-06	9.222E-03
6.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	3.162E-06	9.225E-03
6.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.958E-06	9.228E-03
6.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.767E-06	9.231E-03
6.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.590E-06	9.233E-03

6.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.424E-06	9.236E-03
6.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.270E-06	9.238E-03
6.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	2.125E-06	9.240E-03
6.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.991E-06	9.242E-03
6.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.865E-06	9.244E-03
7.000E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.748E-06	9.246E-03
7.100E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.638E-06	9.247E-03
7.200E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.536E-06	9.249E-03
7.300E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.440E-06	9.250E-03
7.400E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.350E-06	9.252E-03
7.500E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.266E-06	9.253E-03
7.600E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.188E-06	9.254E-03
7.700E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.115E-06	9.255E-03
7.800E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	1.046E-06	9.256E-03
7.900E+00	0.000E+00	3.702E-01	0.000E+00	7.712E-02	9.817E-07	9.257E-03
TOTAL		3.702E-01	TOTAL	7.712E-02	TOTAL	9.257E-03

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
CALCULATION FOR THYROID DOSE (REMS)

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	6.271E+00	6.271E+00	1.307E+00	1.307E+00	1.961E-01	1.961E-01
1.000E-01	1.768E+01	2.395E+01	3.684E+00	4.990E+00	9.322E-01	1.128E+00
2.000E-01	2.756E+01	5.152E+01	5.743E+00	1.073E+01	2.293E+00	3.421E+00
3.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.900E+00	6.321E+00
4.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.525E+00	8.846E+00
5.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.200E+00	1.105E+01
6.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.918E+00	1.296E+01
7.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.673E+00	1.464E+01
8.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.460E+00	1.610E+01
9.000E-01	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.275E+00	1.737E+01
1.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.115E+00	1.849E+01
1.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	9.750E-01	1.946E+01
1.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	8.535E-01	2.032E+01
1.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.478E-01	2.106E+01
1.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	6.558E-01	2.172E+01
1.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.757E-01	2.230E+01
1.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.060E-01	2.280E+01
1.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.452E-01	2.325E+01
1.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.922E-01	2.364E+01
1.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.460E-01	2.399E+01
2.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.056E-01	2.429E+01
2.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.703E-01	2.456E+01
2.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.395E-01	2.480E+01
2.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.126E-01	2.501E+01
2.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.890E-01	2.520E+01
2.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.683E-01	2.537E+01
2.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.502E-01	2.552E+01
2.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.342E-01	2.566E+01
2.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.202E-01	2.578E+01
2.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.079E-01	2.588E+01
3.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	9.707E-02	2.598E+01
3.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	8.749E-02	2.607E+01
3.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.903E-02	2.615E+01
3.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.155E-02	2.622E+01
3.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	6.491E-02	2.628E+01
3.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.902E-02	2.634E+01
3.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.379E-02	2.640E+01
3.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.912E-02	2.645E+01
3.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.496E-02	2.649E+01
3.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.124E-02	2.653E+01
4.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.791E-02	2.657E+01
4.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.491E-02	2.660E+01
4.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.222E-02	2.664E+01
4.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.979E-02	2.667E+01
4.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.760E-02	2.669E+01
4.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.562E-02	2.672E+01
4.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.381E-02	2.674E+01
4.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.217E-02	2.677E+01
4.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	2.068E-02	2.679E+01

4.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.932E-02	2.681E+01
5.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.807E-02	2.682E+01
5.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.692E-02	2.684E+01
5.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.587E-02	2.686E+01
5.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.490E-02	2.687E+01
5.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.400E-02	2.689E+01
5.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.317E-02	2.690E+01
5.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.241E-02	2.691E+01
5.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.169E-02	2.692E+01
5.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.103E-02	2.693E+01
5.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	1.041E-02	2.694E+01
6.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	9.838E-03	2.695E+01
6.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	9.301E-03	2.696E+01
6.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	8.798E-03	2.697E+01
6.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	8.327E-03	2.698E+01
6.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.885E-03	2.699E+01
6.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.471E-03	2.700E+01
6.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	7.081E-03	2.700E+01
6.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	6.715E-03	2.701E+01
6.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	6.369E-03	2.702E+01
6.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	6.044E-03	2.702E+01
7.000E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.737E-03	2.703E+01
7.100E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.447E-03	2.703E+01
7.200E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	5.173E-03	2.704E+01
7.300E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.914E-03	2.704E+01
7.400E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.669E-03	2.705E+01
7.500E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.437E-03	2.705E+01
7.600E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.218E-03	2.706E+01
7.700E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	4.010E-03	2.706E+01
7.800E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.812E-03	2.706E+01
7.900E+00	0.000E+00	5.152E+01	0.000E+00	1.073E+01	3.626E-03	2.707E+01
TOTAL		5.152E+01	TOTAL		1.073E+01	TOTAL 2.707E+01

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
CALCULATION FOR INHALATN DOSE (REMS)

START TIME (HRS)	EXCLUSION RADIUS		MULTI NODE CONTAINMENT WITH ESF		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	2.759E-01	2.759E-01	5.748E-02	5.748E-02	8.625E-03	8.625E-03
1.000E-01	7.779E-01	1.054E+00	1.621E-01	2.195E-01	4.101E-02	4.963E-02
2.000E-01	1.213E+00	2.266E+00	2.526E-01	4.722E-01	1.008E-01	1.505E-01
3.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.274E-01	2.779E-01
4.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.108E-01	3.887E-01
5.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	9.639E-02	4.851E-01
6.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	8.388E-02	5.690E-01
7.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	7.303E-02	6.420E-01
8.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	6.361E-02	7.056E-01
9.000E-01	0.000E+00	2.266E+00	0.000E+00	4.722E-01	5.543E-02	7.611E-01
1.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.833E-02	8.094E-01
1.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.217E-02	8.516E-01
1.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.682E-02	8.884E-01
1.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.216E-02	9.205E-01
1.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.812E-02	9.487E-01
1.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.460E-02	9.733E-01
1.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.155E-02	9.948E-01
1.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.888E-02	1.014E+00
1.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.657E-02	1.030E+00
1.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.455E-02	1.045E+00
2.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.279E-02	1.058E+00
2.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.126E-02	1.069E+00
2.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	9.926E-03	1.079E+00
2.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	8.760E-03	1.088E+00
2.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	7.742E-03	1.095E+00
2.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	6.852E-03	1.102E+00
2.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	6.074E-03	1.108E+00
2.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	5.393E-03	1.114E+00
2.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.797E-03	1.118E+00
2.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.274E-03	1.123E+00
3.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.815E-03	1.127E+00
3.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.412E-03	1.130E+00
3.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.058E-03	1.133E+00

3.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.746E-03	1.136E+00
3.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.471E-03	1.138E+00
3.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.228E-03	1.140E+00
3.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.013E-03	1.142E+00
3.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.823E-03	1.144E+00
3.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.655E-03	1.146E+00
3.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.505E-03	1.147E+00
4.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.372E-03	1.149E+00
4.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.254E-03	1.150E+00
4.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.148E-03	1.151E+00
4.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.053E-03	1.152E+00
4.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	9.683E-04	1.153E+00
4.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	8.921E-04	1.154E+00
4.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	8.235E-04	1.155E+00
4.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	7.616E-04	1.156E+00
4.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	7.057E-04	1.156E+00
4.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	6.550E-04	1.157E+00
5.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	6.090E-04	1.158E+00
5.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	5.671E-04	1.158E+00
5.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	5.290E-04	1.159E+00
5.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.941E-04	1.159E+00
5.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.622E-04	1.160E+00
5.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.329E-04	1.160E+00
5.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	4.059E-04	1.161E+00
5.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.811E-04	1.161E+00
5.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.582E-04	1.161E+00
5.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.370E-04	1.162E+00
6.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	3.174E-04	1.162E+00
6.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.991E-04	1.162E+00
6.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.822E-04	1.163E+00
6.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.664E-04	1.163E+00
6.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.516E-04	1.163E+00
6.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.379E-04	1.163E+00
6.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.250E-04	1.164E+00
6.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.130E-04	1.164E+00
6.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	2.016E-04	1.164E+00
6.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.910E-04	1.164E+00
7.000E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.811E-04	1.164E+00
7.100E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.717E-04	1.164E+00
7.200E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.628E-04	1.165E+00
7.300E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.545E-04	1.165E+00
7.400E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.466E-04	1.165E+00
7.500E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.392E-04	1.165E+00
7.600E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.322E-04	1.165E+00
7.700E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.256E-04	1.165E+00
7.800E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.193E-04	1.165E+00
7.900E+00	0.000E+00	2.266E+00	0.000E+00	4.722E-01	1.134E-04	1.166E+00
TOTAL		2.266E+00	TOTAL		4.722E-01	TOTAL 1.166E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR TEDE DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	3.222E-01	3.222E-01	6.713E-02	6.713E-02	8.706E-03	8.706E-03
1.000E-01	9.059E-01	1.228E+00	1.887E-01	2.559E-01	4.138E-02	5.009E-02
2.000E-01	1.408E+00	2.637E+00	2.934E-01	5.493E-01	1.017E-01	1.518E-01
3.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.285E-01	2.804E-01
4.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.117E-01	3.921E-01
5.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	9.716E-02	4.893E-01
6.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	8.453E-02	5.738E-01
7.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	7.358E-02	6.474E-01
8.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	6.408E-02	7.115E-01
9.000E-01	0.000E+00	2.637E+00	0.000E+00	5.493E-01	5.584E-02	7.673E-01
1.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.868E-02	8.160E-01
1.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.247E-02	8.584E-01
1.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.708E-02	8.955E-01
1.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.239E-02	9.279E-01
1.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.832E-02	9.562E-01
1.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.478E-02	9.810E-01
1.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.170E-02	1.003E+00

1.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.902E-02	1.022E+00
1.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.669E-02	1.038E+00
1.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.465E-02	1.053E+00
2.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.289E-02	1.066E+00
2.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.134E-02	1.077E+00
2.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	9.999E-03	1.087E+00
2.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	8.826E-03	1.096E+00
2.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	7.801E-03	1.104E+00
2.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	6.905E-03	1.111E+00
2.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	6.122E-03	1.117E+00
2.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	5.437E-03	1.122E+00
2.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.836E-03	1.127E+00
2.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.310E-03	1.132E+00
3.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.848E-03	1.135E+00
3.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.442E-03	1.139E+00
3.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.085E-03	1.142E+00
3.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.771E-03	1.145E+00
3.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.494E-03	1.147E+00
3.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.249E-03	1.149E+00
3.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.033E-03	1.151E+00
3.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.841E-03	1.153E+00
3.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.672E-03	1.155E+00
3.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.521E-03	1.156E+00
4.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.387E-03	1.158E+00
4.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.267E-03	1.159E+00
4.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.160E-03	1.160E+00
4.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.064E-03	1.161E+00
4.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	9.788E-04	1.162E+00
4.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	9.018E-04	1.163E+00
4.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	8.325E-04	1.164E+00
4.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	7.700E-04	1.165E+00
4.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	7.134E-04	1.166E+00
4.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	6.622E-04	1.166E+00
5.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	6.157E-04	1.167E+00
5.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	5.734E-04	1.167E+00
5.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	5.348E-04	1.168E+00
5.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.996E-04	1.168E+00
5.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.673E-04	1.169E+00
5.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.376E-04	1.169E+00
5.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	4.104E-04	1.170E+00
5.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.853E-04	1.170E+00
5.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.621E-04	1.171E+00
5.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.406E-04	1.171E+00
6.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.207E-04	1.171E+00
6.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	3.023E-04	1.171E+00
6.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.851E-04	1.172E+00
6.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.691E-04	1.172E+00
6.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.542E-04	1.172E+00
6.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.403E-04	1.173E+00
6.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.273E-04	1.173E+00
6.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.151E-04	1.173E+00
6.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	2.036E-04	1.173E+00
6.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.929E-04	1.173E+00
7.000E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.828E-04	1.174E+00
7.100E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.733E-04	1.174E+00
7.200E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.644E-04	1.174E+00
7.300E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.559E-04	1.174E+00
7.400E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.480E-04	1.174E+00
7.500E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.405E-04	1.174E+00
7.600E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.334E-04	1.174E+00
7.700E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.267E-04	1.175E+00
7.800E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.203E-04	1.175E+00
7.900E+00	0.000E+00	2.637E+00	0.000E+00	5.493E-01	1.143E-04	1.175E+00
	TOTAL	2.637E+00	TOTAL	5.493E-01	TOTAL	1.175E+00

1 NO MORE CASES

END OF EXECUTION

## MSIV LEAKAGE RADTRAD RUN

```
#####
RADTRAD Version 3.02 run on 9/24/2000 at 10:48:29
#####

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

Plant file name      = D:\radtrad 3.02\msiv.psf
Inventory file name  = d:\radtrad 3.02\defaults\ggnsloca.nif
Scenario file name   = D:\radtrad 3.02\msiv.psf
Release file name    = d:\radtrad 3.02\defaults\bwr_def.rft
Dose conversion file name = d:\radtrad 3.02\defaults\fgr11&12.inp
```

```
#####      #####      # #      # #####      # #      #####
# # #      #      # ##      # #      # #      #
# # #      #      # # #      # #      # #      #
#####      #####      # # #      # #####      # #      #
#          # #      # #      # #      # #      #
#          # #      # #      # #      # #      #
#          #####      # #      # #      #####      #
```

Radtrad 3.02 1/5/2000

```
Nuclide Inventory File:
d:\radtrad 3.02\defaults\ggnsloca.nif
Plant Power Level:
3.9100E+03
Compartments:
4
Compartment 1:
Drywell
3
2.7000E+05
0
0
0
1
0
Compartment 2:
Environment
2
0.0000E+00
0
0
0
0
0
Compartment 3:
Control Room
1
2.5300E+05
0
0
1
0
0
Compartment 4:
Containment
3
1.0000E+00
0
```

```

0
0
0
0
Pathways:
4
Pathway 1:
Drywell to Environment
1
2
4
Pathway 2:
Environment to Control Room
2
3
2
Pathway 3:
Control Room to Environment
3
2
2
Pathway 4:
Drywell to Containment
1
4
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
1
1 1.0000E+00
d:\radtrad 3.02\defaults\fgr11&12.inp
d:\radtrad 3.02\defaults\bwr_def.rft
0.0000E+00
0
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00
Overlying Pool:
0
0.0000E+00
0
0
0
0
0
Compartments:
4
Compartment 1:
0
1
0
0
0
0
0
0
1
2
0.0000E+00 7.4740E-01
3.3330E-01 0.0000E+00
1
2
0.0000E+00 8.6600E-01
3.3330E-01 0.0000E+00
Compartment 2:
0
1
0
0
0
0

```

```

0
0
0
0
Compartment 3:
0
1
0
0
0
0
0
1
4.0000E+03
3
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.0000E-01  9.9000E+01  0.0000E+00  0.0000E+00
7.2000E+01  9.9000E+01  0.0000E+00  0.0000E+00
0
0
Compartment 4:
0
1
0
0
0
0
0
0
0
0
0
Pathways:
4
Pathway 1:
0
0
0
0
0
0
0
0
0
0
0
1
2
0.0000E+00  9.2090E-01
3.0000E-01  0.0000E+00
0
Pathway 2:
0
0
0
0
0
0
1
3
0.0000E+00  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
3.0000E-01  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+01  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
0
Pathway 3:
0
0
0
0
0
0

```

```

1
3
0.0000E+00  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
3.0000E-01  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+01  2.0100E+03  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
0
Pathway 4:
0
0
0
0
0
0
1
2
0.0000E+00  3.0000E+03  0.0000E+00  0.0000E+00  0.0000E+00
3.0000E-01  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Dose Locations:
3
Location 1:
EAB
2
1
2
0.0000E+00  6.0000E-04
2.0000E+00  0.0000E+00
1
2
0.0000E+00  3.5000E-04
2.0000E+00  0.0000E+00
0
Location 2:
LPZ
2
1
2
0.0000E+00  1.2500E-04
3.3330E-01  0.0000E+00
1
2
0.0000E+00  3.5000E-04
3.3300E-01  0.0000E+00
0
Location 3:
Control Room
3
0
1
2
0.0000E+00  3.5000E-04
3.3330E-01  3.5000E-04
1
3
0.0000E+00  1.0000E+00
2.4000E+01  1.0000E+00
7.2000E+01  0.0000E+00
Effective Volume Location:
1
2
0.0000E+00  8.0000E-04

```

```
3.3330E-01  0.0000E+00
Simulation Parameters:
4
0.0000E+00  1.0000E-02
2.4000E+01  1.0000E-01
9.6000E+01  1.0000E+00
7.2000E+02  0.0000E+00
Output Filename:
D:\radtrad 3.o0
1
1
1
0
0
End of Scenario File
```

```
#####
RADTRAD Version 3.02 run on  9/24/2000  at 10:48:29
#####

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

Number of Nuclides =  60

Inventory Power =  1.0000E+00 MWth
Plant Power Level =  3.9100E+03 MWth

Number of compartments  =  4

Compartment information

Compartment number  1  (Source term fraction =  1.0000E+00
)
Name: Drywell
Compartment volume =  2.7000E+05 (Cubic feet)
Removal devices within compartment:
  Deposition
Pathways into and out of compartment  1
  Pathway to compartment number  2: Drywell to Environment
  Pathway to compartment number  4: Drywell to Containment

Compartment number  2
Name: Environment
Pathways into and out of compartment  2
  Pathway to compartment number  3: Environment to Control Room
  Pathway from compartment number 1: Drywell to Environment
  Pathway from compartment number 3: Control Room to Environment

Compartment number  3
Name: Control Room
Compartment volume =  2.5300E+05 (Cubic feet)
Removal devices within compartment:
  Filter(s)
Pathways into and out of compartment  3
  Pathway to compartment number  2: Control Room to Environment
  Pathway from compartment number 2: Environment to Control Room

Compartment number  4
Name: Containment
Compartment volume =  1.0000E+00 (Cubic feet)
Pathways into and out of compartment  4
  Pathway from compartment number 1: Drywell to Containment

Total number of pathways =  4
```

#####  
RADTRAD Version 3.02 run on 9/24/2000 at 10:48:29  
#####

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

Radioactive Decay is enabled  
RELEASE\_NAME = BWR, NUREG-1465, Tables 3.11 & 3.13, Jun  
Release Fractions and Timings

	GAP	EARLY IN-VESSEL
	0.5000 hrs	1.5000 hrs
NOBLES	5.0000E-02	9.5000E-01
IODINE	5.0000E-02	2.5000E-01
CESIUM	5.0000E-02	2.0000E-01
TELLURIUM	0.0000E+00	5.0000E-02
STRONTIUM	0.0000E+00	2.0000E-02
BARIUM	0.0000E+00	2.0000E-02
RUTHENIUM	0.0000E+00	2.5000E-03
CERIUM	0.0000E+00	5.0000E-04
LANTHANUM	0.0000E+00	2.0000E-04

Iodine fractions  
Aerosol = 9.5000E-01  
Elemental = 4.8500E-02  
Organic = 1.5000E-03

#### COMPARTMENT DATA

Compartment number 1: Drywell

Natural Deposition: Aerosol data  
Time (hr) Removal Coef. (hr<sup>-1</sup>)  
0.0000E+00 7.4740E-01  
3.3330E-01 0.0000E+00

Natural Deposition: Elemental Removal Data  
Time (hr) Removal Coef. (hr<sup>-1</sup>)  
0.0000E+00 8.6600E-01  
3.3330E-01 0.0000E+00

Compartment number 2: Environment

Compartment number 3: Control Room

#### Compartment Filter Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.0000E-01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00
7.2000E+01	4.0000E+03	9.9000E+01	0.0000E+00	0.0000E+00

Compartment number 4: Containment

#### PATHWAY DATA

Pathway number 1: Drywell to Environment

Convection Data  
Time (hr) Flow Rate (% / day)  
0.0000E+00 9.2090E-01  
3.0000E-01 0.0000E+00

Pathway number 2: Environment to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.0000E-01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Control Room to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.0000E-01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+01	2.0100E+03	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Drywell to Containment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	3.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
3.0000E-01	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

#### LOCATION DATA

Location EAB is in compartment 2

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	6.0000E-04
2.0000E+00	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
2.0000E+00	0.0000E+00

Location LPZ is in compartment 2

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.2500E-04
3.3330E-01	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
3.3330E-01	0.0000E+00

Location Control Room is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	8.0000E-04
3.3330E-01	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m <sup>3</sup> * sec <sup>-1</sup> )
0.0000E+00	3.5000E-04
3.3330E-01	3.5000E-04

Location Occupancy Factor Data

Time (hr)	Occupancy Factor
0.0000E+00	1.0000E+00
2.4000E+01	1.0000E+00
7.2000E+01	0.0000E+00

#### USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
2.4000E+01	1.0000E-01

9.6000E+01	1.0000E+00
7.2000E+02	0.0000E+00

```
#####
RADTRAD Version 3.02 run on 9/24/2000 at 10:48:29
#####
```

```
#####
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
# # # # # # # # # #
#####
```

```
#####
Dose Output
#####
```

EAB Doses:

Time (h) =	0.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.8395E-01	5.1893E+01	2.5601E+00
Accumulated dose (rem)		2.8395E-01	5.1893E+01	2.5601E+00

LPZ Doses:

Time (h) =	0.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.9155E-02	1.0811E+01	5.3336E-01
Accumulated dose (rem)		5.9155E-02	1.0811E+01	5.3336E-01

Control Room Doses:

Time (h) =	0.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0165E-03	3.2908E+00	1.4536E-01
Accumulated dose (rem)		1.0165E-03	3.2908E+00	1.4536E-01

EAB Doses:

Time (h) =	0.3330	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.0263E-06	5.7571E-04	2.8276E-05
Accumulated dose (rem)		2.8395E-01	5.1893E+01	2.5602E+00

LPZ Doses:

Time (h) =	0.3330	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.3047E-07	1.1994E-04	5.8908E-06
Accumulated dose (rem)		5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) =	0.3330	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.0381E-04	1.0115E+00	4.4667E-02
Accumulated dose (rem)		1.3203E-03	4.3023E+00	1.9003E-01

EAB Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.6748E-08	5.1135E-06	2.5097E-07
Accumulated dose (rem)		2.8395E-01	5.1893E+01	2.5602E+00

LPZ Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.5724E-09	0.0000E+00	5.5724E-09
Accumulated dose (rem)		5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) =	0.3333	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.6852E-06	8.9842E-03	3.9664E-04
Accumulated dose (rem)		1.3230E-03	4.3113E+00	1.9043E-01

EAB Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3097E-05	2.5374E-03	1.2424E-04
Accumulated dose (rem)		2.8396E-01	5.1896E+01	2.5603E+00

LPZ Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3148E-03	4.4581E+00	1.9660E-01
Accumulated dose (rem)		2.6378E-03	8.7695E+00	3.8702E-01

EAB Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.2510E-05	8.7022E-03	4.1918E-04
Accumulated dose (rem)		2.8400E-01	5.1905E+01	2.5607E+00

LPZ Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.2677E-03	1.5290E+01	6.6606E-01
Accumulated dose (rem)		6.9055E-03	2.4059E+01	1.0531E+00

EAB Doses:

Time (h) =	5.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		2.8400E-01	5.1905E+01	2.5607E+00

LPZ Doses:

Time (h) =	5.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) =	5.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.0423E-04	2.8485E+00	1.1423E-01
Accumulated dose (rem)		7.8097E-03	2.6908E+01	1.1673E+00

EAB Doses:

Time (h) =	12.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)		2.8400E-01	5.1905E+01	2.5607E+00

LPZ Doses:

Time (h) =	12.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		0.0000E+00	0.0000E+00	0.0000E+00

Accumulated dose (rem) 5.9156E-02 1.0811E+01 5.3337E-01

Control Room Doses:

Time (h) = 12.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0195E-04	3.2727E-01	1.0630E-02
Accumulated dose (rem)	7.9117E-03	2.7235E+01	1.1779E+00

EAB Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)	2.8400E-01	5.1905E+01	2.5607E+00

LPZ Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)	5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4417E-06	1.0256E-02	3.1848E-04
Accumulated dose (rem)	7.9131E-03	2.7245E+01	1.1783E+00

EAB Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)	2.8400E-01	5.1905E+01	2.5607E+00

LPZ Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	0.0000E+00	0.0000E+00	0.0000E+00
Accumulated dose (rem)	5.9156E-02	1.0811E+01	5.3337E-01

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2812E-09	3.0345E-05	9.3539E-07
Accumulated dose (rem)	7.9131E-03	2.7245E+01	1.1783E+00

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#####  
I-131 Summary  
#####

	Drywell	Environment	Control Room
Time (hr)	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.001	5.9864E+03	6.3815E-04	4.8425E-07
0.260	2.3417E+06	1.2402E+02	9.0206E-02
0.300	2.6309E+06	1.6220E+02	1.1720E-01
0.333	2.9171E+06	1.6220E+02	1.1201E-01
0.333	2.9196E+06	1.6220E+02	1.1196E-01
0.500	4.7117E+06	1.6221E+02	8.9137E-02
0.750	9.1870E+06	1.6222E+02	6.3489E-02
1.000	1.3654E+07	1.6222E+02	4.5393E-02
1.250	1.8113E+07	1.6223E+02	3.2604E-02
1.500	2.2565E+07	1.6223E+02	2.3548E-02
1.750	2.7008E+07	1.6223E+02	1.7120E-02
2.000	3.1443E+07	1.6224E+02	1.2543E-02
2.250	3.4115E+07	1.6224E+02	9.2731E-03
2.500	3.6782E+07	1.6224E+02	6.9258E-03
2.750	3.9444E+07	1.6224E+02	5.2319E-03
3.000	4.2101E+07	1.6224E+02	4.0016E-03
3.250	4.4754E+07	1.6224E+02	3.1012E-03
3.500	4.7402E+07	1.6224E+02	2.4363E-03

3.750	5.0045E+07	1.6224E+02	1.9405E-03
4.000	5.2683E+07	1.6224E+02	1.5666E-03
4.250	5.5316E+07	1.6224E+02	1.2811E-03
4.500	5.7945E+07	1.6224E+02	1.0602E-03
4.750	6.0569E+07	1.6224E+02	8.8699E-04
5.000	6.3188E+07	1.6224E+02	7.4929E-04
5.250	6.3157E+07	1.6224E+02	6.3833E-04
5.500	6.3127E+07	1.6224E+02	5.4774E-04
5.750	6.3097E+07	1.6224E+02	4.7289E-04
6.000	6.3067E+07	1.6224E+02	4.1036E-04
6.250	6.3036E+07	1.6224E+02	3.5760E-04
6.500	6.3006E+07	1.6224E+02	3.1270E-04
6.750	6.2976E+07	1.6224E+02	2.7420E-04
7.000	6.2946E+07	1.6224E+02	2.4100E-04
7.250	6.2915E+07	1.6224E+02	2.1220E-04
7.500	6.2885E+07	1.6224E+02	1.8712E-04
7.750	6.2855E+07	1.6224E+02	1.6519E-04
8.000	6.2825E+07	1.6224E+02	1.4597E-04
8.250	6.2794E+07	1.6224E+02	1.2909E-04
8.500	6.2764E+07	1.6224E+02	1.1422E-04
8.750	6.2734E+07	1.6224E+02	1.0112E-04
9.000	6.2704E+07	1.6224E+02	8.9549E-05
9.250	6.2673E+07	1.6224E+02	7.9328E-05
9.500	6.2643E+07	1.6224E+02	7.0290E-05
9.750	6.2613E+07	1.6224E+02	6.2293E-05
10.000	6.2583E+07	1.6224E+02	5.5215E-05
10.250	6.2553E+07	1.6224E+02	4.8946E-05
12.000	6.2341E+07	1.6224E+02	2.1092E-05
24.000	5.9711E+07	1.6224E+02	6.6225E-08
72.000	5.0254E+07	1.6224E+02	6.4448E-18

Time (hr)	Containment I-131 (Curies)
0.001	1.1087E+00
0.260	2.1540E+05
0.300	2.8170E+05
0.333	2.8167E+05
0.333	2.8167E+05
0.500	2.8150E+05
0.750	2.8124E+05
1.000	2.8099E+05
1.250	2.8074E+05
1.500	2.8049E+05
1.750	2.8024E+05
2.000	2.7998E+05
2.250	2.7973E+05
2.500	2.7948E+05
2.750	2.7923E+05
3.000	2.7898E+05
3.250	2.7873E+05
3.500	2.7848E+05
3.750	2.7823E+05
4.000	2.7798E+05
4.250	2.7773E+05
4.500	2.7748E+05
4.750	2.7723E+05
5.000	2.7698E+05
5.250	2.7673E+05
5.500	2.7649E+05
5.750	2.7624E+05
6.000	2.7599E+05
6.250	2.7574E+05
6.500	2.7549E+05
6.750	2.7525E+05
7.000	2.7500E+05
7.250	2.7475E+05
7.500	2.7451E+05
7.750	2.7426E+05
8.000	2.7401E+05
8.250	2.7377E+05

8.500	2.7352E+05
8.750	2.7328E+05
9.000	2.7303E+05
9.250	2.7279E+05
9.500	2.7254E+05
9.750	2.7230E+05
10.000	2.7205E+05
10.250	2.7181E+05
12.000	2.7010E+05
24.000	2.5871E+05
72.000	2.1774E+05

#####  
Cumulative Dose Summary  
#####

Time (hr)	EAB		LPZ		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.001	2.0469E-04	1.0164E-05	4.2645E-05	2.1175E-06	3.6135E-08	1.5966E-09
0.260	3.9691E+01	1.9598E+00	8.2689E+00	4.0828E-01	2.1831E+00	9.6433E-02
0.300	5.1893E+01	2.5601E+00	1.0811E+01	5.3336E-01	3.2908E+00	1.4536E-01
0.333	5.1893E+01	2.5602E+00	1.0811E+01	5.3337E-01	4.3023E+00	1.9003E-01
0.333	5.1893E+01	2.5602E+00	1.0811E+01	5.3337E-01	4.3113E+00	1.9043E-01
0.500	5.1896E+01	2.5603E+00	1.0811E+01	5.3337E-01	8.7695E+00	3.8702E-01
0.750	5.1899E+01	2.5604E+00	1.0811E+01	5.3337E-01	1.3802E+01	6.0826E-01
1.000	5.1901E+01	2.5605E+00	1.0811E+01	5.3337E-01	1.7381E+01	7.6487E-01
1.250	5.1902E+01	2.5606E+00	1.0811E+01	5.3337E-01	1.9937E+01	8.7609E-01
1.500	5.1903E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.1771E+01	9.5538E-01
1.750	5.1904E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.3096E+01	1.0122E+00
2.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.4059E+01	1.0531E+00
2.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.4765E+01	1.0827E+00
2.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.5288E+01	1.1044E+00
2.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.5680E+01	1.1204E+00
3.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.5976E+01	1.1323E+00
3.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6203E+01	1.1412E+00
3.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6380E+01	1.1481E+00
3.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6519E+01	1.1534E+00
4.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6631E+01	1.1575E+00
4.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6721E+01	1.1608E+00
4.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6795E+01	1.1634E+00
4.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6856E+01	1.1655E+00
5.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6908E+01	1.1673E+00
5.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6951E+01	1.1688E+00
5.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.6988E+01	1.1700E+00
5.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7020E+01	1.1711E+00
6.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7047E+01	1.1720E+00
6.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7071E+01	1.1728E+00
6.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7092E+01	1.1734E+00
6.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7110E+01	1.1740E+00
7.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7126E+01	1.1745E+00
7.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7140E+01	1.1750E+00
7.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7152E+01	1.1754E+00
7.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7163E+01	1.1757E+00
8.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7173E+01	1.1760E+00
8.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7181E+01	1.1763E+00
8.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7188E+01	1.1765E+00
8.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7195E+01	1.1767E+00
9.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7201E+01	1.1769E+00
9.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7206E+01	1.1770E+00
9.500	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7210E+01	1.1772E+00
9.750	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7214E+01	1.1773E+00
10.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7218E+01	1.1774E+00
10.250	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7221E+01	1.1775E+00
12.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7235E+01	1.1779E+00
24.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7245E+01	1.1783E+00
72.000	5.1905E+01	2.5607E+00	1.0811E+01	5.3337E-01	2.7245E+01	1.1783E+00

#####  
Worst Two-Hour Doses  
#####

Note: All of the dose locations are shown below but the worst two-hour dose is only meaningful for the EAB dose location. Please disregard the two-hour worst doses for the other dose locations

#####

EAB

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	2.8400E-01	5.1905E+01	2.5607E+00

LPZ

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	5.9156E-02	1.0811E+01	5.3337E-01

Control Room

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	6.9055E-03	2.4059E+01	1.0531E+00

## MSIV LEAKAGE RAPTOR RUN

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RRRRRR      AAAA      PPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPP      TT      OO      2.09B      OO      RRRRRRRR
RRRRRRR      AAAAAAAAAA      PPPPP      TT      OO      OO      OO      RRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OOOOOOO      RR      RR
RR      RR      AA      AA      PP      TT      OOO      RR      RR

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IIIIIIIIII NN      NN PPPPP      UU      UU TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPP      UU      UU TTTTTTTTTT
      II      NNNN      NN PP      PP UU      UU      TT
      II      NN NN      NN PP      PP UU      UU      TT
      II      NN NN      NN PP      PP UU      UU      TT
      II      NN      NN PPPPPPP      UU      UU      TT
      II      NN      NN NN PPPPP      UU      UU      TT
      II      NN      NN NN PP      UU      UU      TT
      II      NN      NN NN PP      UUU      UUU      TT
IIIIIIIIII NN      NNN PP      UUUUUUU      TT
IIIIIIIIII NN      NN PP      UU      TT

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Execution Time: 00:53:24# on 09/24/00

### MODELED NUCLIDE PARAMETERS

Isotope	Group	Half-Life		Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Br-82	Halogens	1.4710E+000	Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000	Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001	Min	3.4817E-001	5.2910E+000	8.3990E+001
Kr-85	Noble Gas	1.0730E+001	Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000	Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000	Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000	Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001	Dys	1.7797E-002	4.9210E+003	6.6230E+003
I-131	Halogens	8.0400E+000	Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000	Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001	Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001	Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000	Hrs	3.0688E-001	3.1302E+004	1.2284E+003
Xe-133	Noble Gas	5.2430E+000	Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000	Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Cs-134	Cesiums	2.0650E+000	Yrs	2.8009E-001	4.1070E+004	4.6250E+004
Cs-136	Cesiums	1.3160E+001	Dys	3.9220E-001	6.4010E+003	7.3260E+003
Cs-137	Cesiums	3.0170E+001	Yrs	1.0082E-001	2.9341E+004	3.1931E+004
Cs-138	Cesiums	3.2200E+001	Min	4.4770E-001	1.3209E+001	1.0138E+002

### MODEL PARAMETERS

Core Power Level = 3910.00 MW  
Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

### NODE PARAMETERS

Name Volume (cu.ft.)  
Drywell 2.700E+005 Inventory Tracked  
Containment 1.400E+006 Inventory Tracked  
MSIV\_Vol 4.337E+002 Inventory Tracked  
ControlRoom 2.530E+005 Inventory Tracked  
OutofCR 1.000E+000 Inventory Not Tracked

### RELEASE POINTS

Name  
Turbine\_Bldg\_Vent

# RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

## INITIAL INVENTORIES

No Initial Inventories

Br-82	Core	1.9500E+002 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
Br-83	Core	3.5220E+003 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
Br-84	Core	6.1990E+003 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
Kr-85	Core	3.8800E+002 Ci/MW			
Kr-85m	Core	9.1100E+003 Ci/MW			
Kr-87	Core	1.6570E+004 Ci/MW			
Kr-88	Core	2.2360E+004 Ci/MW			
Rb-86	Core	7.3760E+001 Ci/MW			
I-131	Core	2.7570E+004 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
I-132	Core	3.9770E+004 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
I-133	Core	5.5140E+004 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
I-134	Core	6.0740E+004 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
I-135	Core	5.1530E+004 Ci/MW	0.0485 elemental	0.0015 organic	0.9500 particulate
Xe-133	Core	5.4250E+004 Ci/MW			
Xe-135	Core	2.1540E+004 Ci/MW			
Cs-134	Core	8.1940E+003 Ci/MW			
Cs-136	Core	2.4040E+003 Ci/MW			
Cs-137	Core	4.1970E+003 Ci/MW			
Cs-138	Core	5.1020E+004 Ci/MW			

## RELEASE PARAMETERS

0.000E+000 Sec to 5.000E-001 Hrs Noble Gas	Into	Drywell at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs Halogens	Into	Drywell at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs Cesiums	Into	Drywell at 5.0000E+000 percent

## FLOW PARAMETERS

Flow#1 from Drywell to Turbine\_Bldg\_Vent  
0.000E+000 Sec to 1.800E+001 Min at 9.2090E-001 percent per day

Flow#2 from Drywell to MSIV\_Vol  
0.000E+000 Sec to 1.800E+001 Min at 1.3810E+000 percent per day

Flow#3 from Drywell to Containment  
0.000E+000 Sec to 1.800E+001 Min at 3.0000E+003 cfm

Flow#4 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 1.800E+001 Min at 2.0100E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm

Flow#5 from ControlRoom to OutofCR  
0.000E+000 Sec to 1.800E+001 Min at 2.0100E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm

Flow#6 from ControlRoom to ControlRoom  
1.800E+001 Min to 3.000E+000 Dys at 4.0000E+003 cfm

## FILTER PARAMETERS

CRFAS\_HEPA on Flow#6 is Not Tracked  
1.800E+001 Min to 3.000E+000 Dys at All Groups      Particulate      0.990000

## REMOVAL PARAMETERS

Drywell\_Dep from Drywell  
0.000E+000 Sec to 1.800E+001 Min at All Groups      Particulate      0.747400 1/hr  
0.000E+000 Sec to 1.800E+001 Min at Halogens Elemental      0.866000 1/hr

## DIFFUSION PARAMETERS

Diffusion from Turbine\_Bldg\_Vent to EAB

0.000E+000 Sec to 1.800E+001 Min at 6.0000E-004 s/cu.m.

Diffusion from Turbine\_Bldg\_Vent to LPZ

0.000E+000 Sec to 1.800E+001 Min at 1.2500E-004 s/cu.m.

Diffusion from Turbine\_Bldg\_Vent to CR\_Intake

0.000E+000 Sec to 1.800E+001 Min at 8.0000E-004 s/cu.m.

#### DOSE LOCATIONS

##### EAB

0.000E+000 Sec to 1.800E+001 Min at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 1.800E+001 Min at Occupancy Factor=1.000000

##### LPZ

0.000E+000 Sec to 1.800E+001 Min at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 1.800E+001 Min at Occupancy Factor=1.000000

##### ControlRoom

0.000E+000 Sec to 1.000E+000 Dys at Breathing Rate=3.5000E-004 cu.m./s

0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000

1.000E+000 Dys to 3.000E+000 Dys at Occupancy Factor=0.600000

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RRRRRR      AAAA      PPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR    AAAAAA    PPPPPPP    TTTTTTTTTT    OOOOOOO    RRRRRRRR
RR   RR   AA   AA   PP   PP   TT   OO   OO   RR   RR
RR   RR   AAA   AAA   PP   PP   TT   OO   OO   RR   RR
RR   RR   AA   AA   PP   PP   TT   OO   OO   RR   RR
RRRRRRRR    AAAAAAAAAA PPPPPPP    TT   OO 2.09B OO RRRRRRRR
RRRRRRRR    AAAAAAAAAA PPPPPPP    TT   OO   OO RRRRRRRR
RR   RR   AA   AA   PP   PP   TT   OO   OO   RR   RR
RR   RR   AA   AA   PP   PP   TT   OO   OO   RR   RR
RR   RR   AA   AA   PP   PP   TT   OOOOOOO   RR   RR
RR   RR   AA   AA   PP   PP   TT   OOO      RR   RR

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      OOO      UU      UU TTTTTTTTTT PPPPPP      UU      UU TTTTTTTTTT
      OOOOOOO      UU      UU TTTTTTTTTT PPPPPPP      UU      UU TTTTTTTTTT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
      OO      OO      UU      UU      TT      PPPPPPP      UU      UU      TT
      OO      OO      UU      UU      TT      PPPPPP      UU      UU      TT
      OO      OO      UU      UU      TT      PP      UU      UU      TT
      OO      OO      UUU      UUU      TT      PP      UUU      UUU      TT
      OOOOOOO      UUUUUUU      TT      PP      UUUUUUU      TT
      OOO      UU      TT      PP      UU      TT

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Time = -121.000000 Seconds  
ClockTime = 0.050000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.00000	0.00000	0.00000	0.000000
LPZ	0.00000	0.00000	0.00000	0.000000
ControlRoom	0.00000	0.00000	0.00000	0.000000

Isotope	Core	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	3.697883E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.143675E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.243275E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.678945E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.065653E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.308247E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.175547E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.635714E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.302618E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.562010E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.478870E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.742760E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.884016E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.228237E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	1.616980E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131P	1.024088E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132E	7.541784E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	2.332510E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132P	1.477257E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	1.045647E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	3.233961E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133P	2.048175E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	1.151843E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	3.562401E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134P	2.256187E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	9.771892E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	3.022234E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135P	1.914082E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.121175E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.422140E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203854E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.399640E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.994882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 0.000000 Seconds  
ClockTime = 0.110000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.00000	0.00000	0.00000	0.000000
LPZ	0.00000	0.00000	0.00000	0.000000
ControlRoom	0.00000	0.00000	0.00000	0.000000

Isotope	Core	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	3.695443E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.142920E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.238497E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.614424E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.045698E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.295609E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.124993E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.479358E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.203594E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.543534E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.361102E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.671334E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.883866E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227606E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	1.616785E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131P	1.023964E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132E	7.465113E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	2.308798E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132P	1.462239E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	1.044477E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	3.230341E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133P	2.045882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	1.121636E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	3.468977E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134P	2.197019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	9.737302E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	3.011536E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135P	1.907306E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.120782E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.400606E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.398947E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.910134E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1080.000000 Seconds  
ClockTime = 0.550000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.34546	51.75727	2.27625	2.621707
LPZ	0.07197	10.78277	0.47422	0.546189
ControlRoom	0.00123	3.27489	0.14401	0.145243

Isotope	Core	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	3.673741E+004	8.833807E+002	9.500663E+001	8.200260E-002	3.944445E-005
Br-82O	1.136208E+003	3.088973E+001	3.189167E+000	2.752650E-003	1.325259E-006
Br-82P	7.195987E+005	1.759090E+004	1.881552E+003	1.624015E+000	7.812700E-004
Br-83E	6.065454E+005	1.458542E+004	1.568705E+003	1.353988E+000	6.513369E-004
Br-83O	1.875913E+004	5.100177E+002	5.265802E+001	4.545046E-002	2.188369E-005
Br-83P	1.188079E+007	2.904419E+005	3.106731E+004	2.681497E+001	1.290093E-002
Br-84E	7.598981E+005	1.827563E+004	1.965876E+003	1.696797E+000	8.164763E-004
Br-84O	2.350200E+004	6.390557E+002	6.599021E+001	5.695780E-002	2.743206E-005
Br-84P	1.488460E+007	3.639257E+005	3.893306E+004	3.360410E+001	1.617182E-002
Kr-85	1.517076E+006	4.124416E+004	4.258183E+003	3.675344E+000	1.769479E-003
Kr-85m	3.382816E+007	9.196927E+005	9.495415E+004	8.195731E+001	3.945969E-002

Kr-87	5.400363E+007	1.468287E+006	1.516023E+005	1.308517E+002	6.300755E-002
Kr-88	8.059108E+007	2.191072E+006	2.262212E+005	1.952572E+002	9.401211E-002
Rb-86	2.882527E+005	7.046445E+003	7.536976E+002	6.505352E-001	3.129534E-004
I-131E	5.221975E+006	1.255663E+005	1.350449E+004	1.165607E+001	5.606713E-003
I-131O	1.615044E+005	4.390758E+003	4.533166E+002	3.912689E-001	1.883750E-004
I-131P	1.022861E+008	2.500423E+006	2.674488E+005	2.308418E+002	1.110513E-001
I-132E	6.814393E+006	1.638641E+005	1.762410E+004	1.521180E+001	7.317677E-003
I-132O	2.107544E+005	5.729939E+003	5.916028E+002	5.106272E-001	2.458601E-004
I-132P	1.334778E+008	3.263052E+006	3.490353E+005	3.012611E+002	1.449401E-001
I-133E	1.034087E+007	2.486551E+005	2.674263E+004	2.308223E+001	1.110293E-002
I-133O	3.198207E+005	8.694879E+003	8.976922E+002	7.748206E-001	3.730376E-004
I-133P	2.025531E+008	4.951509E+006	5.296226E+005	4.571305E+002	2.199141E-001
I-134E	8.847852E+006	2.127766E+005	2.288634E+004	1.975377E+001	9.503888E-003
I-134O	2.736449E+005	7.440293E+003	7.682448E+002	6.630913E-001	3.193126E-004
I-134P	1.733084E+008	4.237054E+006	4.532509E+005	3.912122E+002	1.882420E-001
I-135E	9.433937E+006	2.268494E+005	2.439769E+004	2.105826E+001	1.012957E-002
I-135O	2.917712E+005	7.932386E+003	8.189777E+002	7.068802E-001	3.403344E-004
I-135P	1.847884E+008	4.517289E+006	4.831825E+005	4.170469E+002	2.006348E-001
Xe-133	2.117280E+008	5.756172E+006	5.942866E+005	5.129437E+002	2.469549E-001
Xe-135	8.210820E+007	2.232267E+006	2.304690E+005	1.989236E+002	9.577295E-002
Cs-134	3.203813E+007	7.831840E+005	8.377044E+004	7.230436E+001	3.478350E-002
Cs-136	9.392761E+006	2.296096E+005	2.455936E+004	2.119780E+001	1.019764E-002
Cs-137	1.641026E+007	4.011548E+005	4.290807E+004	3.703503E+001	1.781646E-002
Cs-138	1.296541E+008	3.170011E+006	3.391296E+005	2.927112E+002	1.408653E-001

Time = 1800.000000 Seconds  
ClockTime = 0.820000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.34546	51.75727	2.27625	2.621707
LPZ	0.07197	10.78277	0.47422	0.546189
ControlRoom	0.00313	8.73891	0.38392	0.387052

Isotope	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	1.611789E+003	9.463429E+001	8.168123E-002	3.578178E-005
Br-82O	5.340385E+001	3.176668E+000	2.741862E-003	1.202288E-006
Br-82P	3.185757E+004	1.874179E+003	1.617650E+000	5.873672E-004
Br-83E	2.521731E+004	1.480660E+003	1.277995E+000	5.598881E-004
Br-83O	8.355321E+002	4.970255E+001	4.289952E-002	1.881256E-005
Br-83P	4.984290E+005	2.932363E+004	2.530996E+001	9.190707E-003
Br-84E	2.577163E+004	1.513422E+003	1.306272E+000	5.724384E-004
Br-84O	8.538985E+002	5.080229E+001	4.384873E-002	1.923426E-005
Br-84P	5.093853E+005	2.997246E+004	2.586998E+001	9.396723E-003
Kr-85	7.158558E+004	4.258177E+003	3.675339E+000	1.611603E-003
Kr-85m	1.547632E+006	9.206088E+004	7.946005E+001	3.484401E-002
Kr-87	2.284906E+006	1.359250E+005	1.173203E+002	5.145168E-002
Kr-88	3.621772E+006	2.154438E+005	1.859549E+002	8.154509E-002
Rb-86	1.280753E+004	7.534642E+002	6.503338E-001	2.361343E-004
I-131E	2.298407E+005	1.349479E+004	1.164769E+001	5.102438E-003
I-131O	7.615375E+003	4.529911E+002	3.909879E-001	1.714449E-004
I-131P	4.542882E+006	2.672568E+005	2.306760E+002	8.375784E-002
I-132E	2.824512E+005	1.658444E+004	1.431444E+001	6.271169E-003
I-132O	9.358530E+003	5.567037E+002	4.805049E-001	2.107149E-004
I-132P	5.582745E+006	3.284454E+005	2.834894E+002	1.029429E-001
I-133E	4.524478E+005	2.656499E+004	2.292890E+001	1.004442E-002
I-133O	1.499108E+004	8.917291E+002	7.696737E-001	3.374981E-004
I-133P	8.942788E+006	5.261045E+005	4.540940E+002	1.648817E-001
I-134E	3.327465E+005	1.953891E+004	1.686452E+001	7.389357E-003
I-134O	1.102498E+004	6.558788E+002	5.661054E-001	2.482866E-004
I-134P	6.576849E+006	3.869569E+005	3.339922E+002	1.212982E-001
I-135E	4.068549E+005	2.388828E+004	2.061858E+001	9.032516E-003
I-135O	1.348043E+004	8.018780E+002	6.921210E-001	3.034977E-004
I-135P	8.041628E+006	4.730939E+005	4.083392E+002	1.482711E-001
Xe-133	9.979735E+006	5.936323E+005	5.123789E+002	2.246739E-001
Xe-135	3.815872E+006	2.269847E+005	1.959162E+002	8.590929E-002
Cs-134	1.423936E+006	8.376980E+004	7.230381E+001	2.625329E-002
Cs-136	4.172817E+005	2.454859E+004	2.118850E+001	7.693485E-003
Cs-137	7.293595E+005	4.290805E+004	3.703501E+001	1.344730E-002

Cs-138 4.451492E+006 2.619272E+005 2.260759E+002 8.211694E-002

Time = 86400.000000 Seconds  
ClockTime = 28.940000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.34546	51.75727	2.27625	2.621707
LPZ	0.07197	10.78277	0.47422	0.546189
ControlRoom	0.00877	27.16564	1.16866	1.177430

Isotope	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	1.016082E+003	5.965802E+001	5.149233E-002	3.078405E-010
Br-82O	3.366610E+001	2.002591E+000	1.728486E-003	1.034362E-011
Br-82P	2.008320E+004	1.181493E+003	1.019776E+000	1.314870E-018
Br-83E	2.845205E+001	1.670591E+000	1.441929E-003	8.621037E-012
Br-83O	9.427095E-001	5.607812E-002	4.840243E-005	2.896718E-013
Br-83P	5.623647E+002	3.308510E+001	2.855658E-002	3.682279E-020
Kr-85	7.157318E+004	4.257439E+003	3.674702E+000	2.199006E-008
Kr-85m	4.079473E+004	2.426675E+003	2.094524E+000	1.253453E-008
Kr-87	6.146503E+000	3.656446E-001	3.155970E-004	1.888874E-012
Kr-88	1.169510E+004	6.956915E+002	6.004687E-001	3.593553E-009
Rb-86	1.234982E+004	7.265372E+002	6.270924E-001	8.085510E-019
I-131E	2.112348E+005	1.240237E+004	1.070480E+001	6.399702E-008
I-131O	6.998900E+003	4.163208E+002	3.593369E-001	2.150337E-009
I-131P	4.175129E+006	2.456220E+005	2.120025E+002	2.733487E-016
I-132E	2.229574E+002	1.309120E+001	1.129934E-002	6.755703E-011
I-132O	7.387307E+000	4.394431E-001	3.792943E-004	2.269955E-012
I-132P	4.406830E+003	2.592637E+002	2.237770E-001	2.885544E-019
I-133E	2.067581E+005	1.213958E+004	1.047797E+001	6.264150E-008
I-133O	6.850571E+003	4.074994E+002	3.517229E-001	2.104790E-009
I-133P	4.086645E+006	2.404175E+005	2.075103E+002	2.675589E-016
I-134E	2.835816E-003	1.665194E-004	1.437270E-007	8.594383E-016
I-134O	9.395984E-005	5.589695E-006	4.824605E-009	2.887762E-017
I-134P	5.605088E-002	3.297822E-003	2.846432E-006	3.670895E-024
I-135E	3.409542E+004	2.001896E+003	1.727886E+000	1.033020E-008
I-135O	1.129693E+003	6.719931E+001	5.800141E-002	3.471007E-010
I-135P	6.739078E+005	3.964641E+004	3.421981E+001	4.412310E-017
Xe-133	8.767980E+006	5.215525E+005	4.501650E+002	2.693870E-006
Xe-135	6.371016E+005	3.789758E+004	3.271035E+001	1.957485E-007
Cs-134	1.422655E+006	8.369445E+004	7.223877E+001	9.314210E-017
Cs-136	3.963065E+005	2.331463E+004	2.012344E+001	2.594646E-017
Cs-137	7.293146E+005	4.290540E+004	3.703273E+001	4.774868E-017

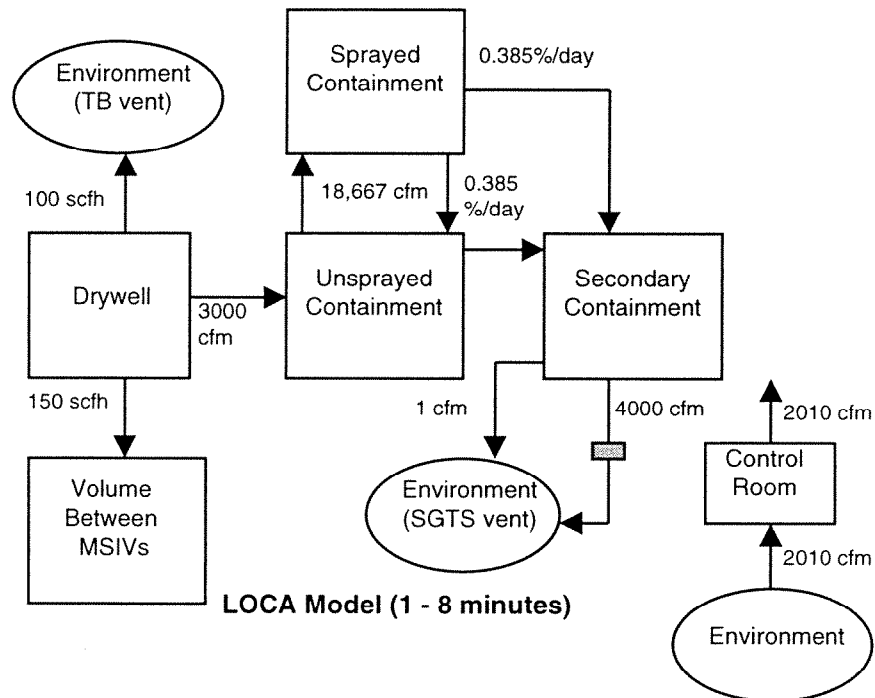
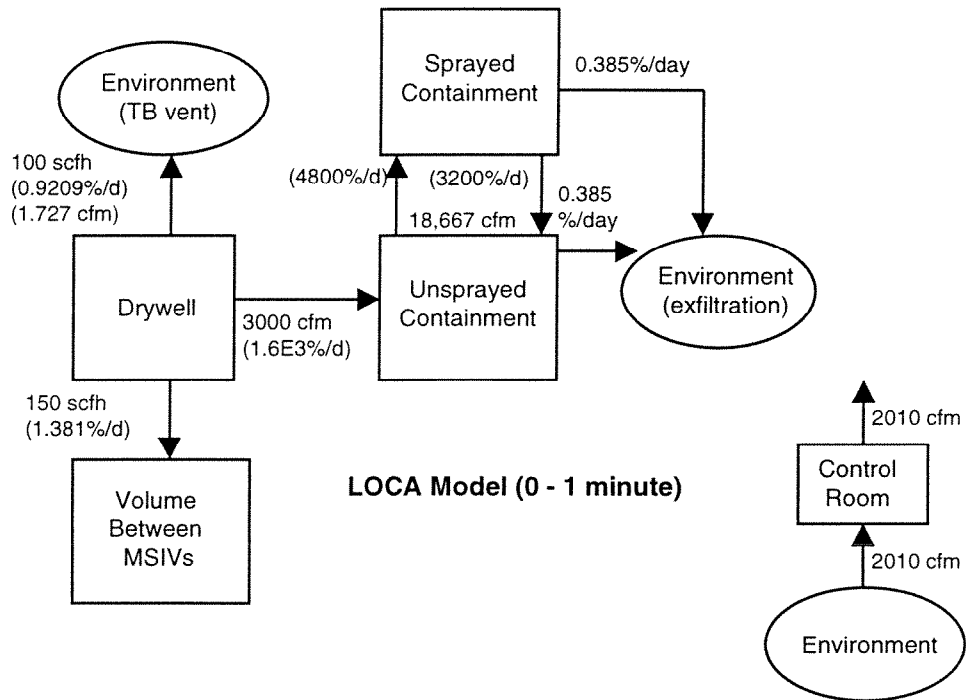
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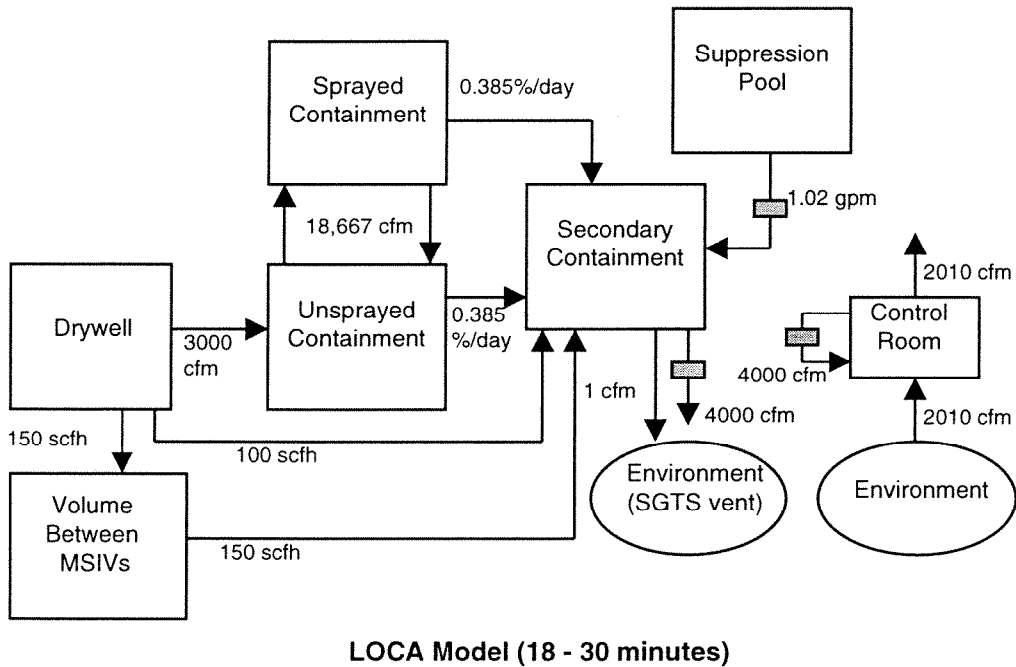
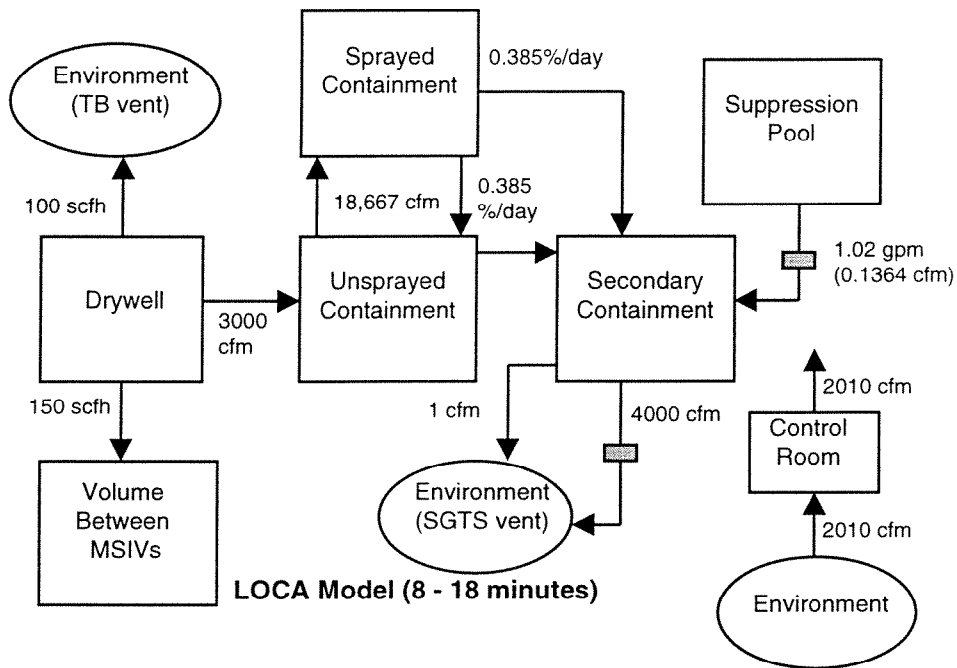
	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.34546	51.75727	2.27625	2.621707
LPZ	0.07197	10.78277	0.47422	0.546189
ControlRoom	0.00877	27.16564	1.16866	1.177430

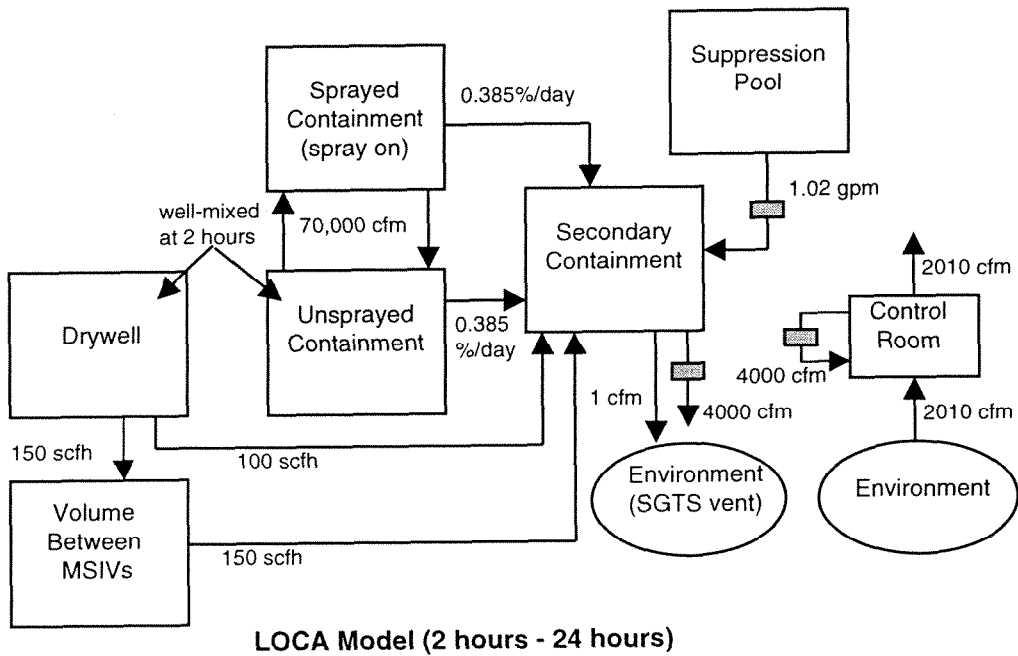
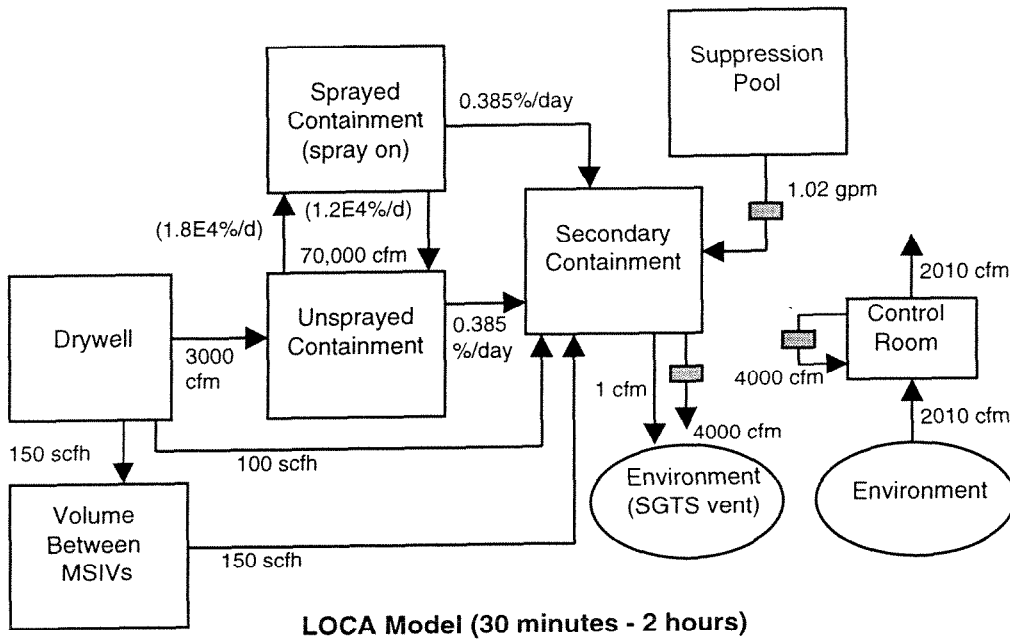
Isotope	Drywell	Containment	MSIV_Vol	ControlRoom
Br-82E	3.959518E+002	2.324784E+001	2.006579E-002	1.387098E-020
Br-82O	1.311918E+001	7.803797E-001	6.735653E-004	4.660729E-022
Br-82P	7.826125E+003	4.604103E+002	3.973917E-001	1.568282E-048
Br-83E	2.713401E-005	1.593200E-006	1.375131E-009	9.506648E-028
Br-83P	5.363130E-004	3.155243E-005	2.723369E-008	1.074842E-055
Kr-85	7.154787E+004	4.255934E+003	3.673403E+000	2.541794E-018
Kr-85m	2.428190E+001	1.444409E+000	1.246706E-003	8.626892E-022
Kr-88	9.553726E-001	5.683104E-003	4.905230E-006	3.394381E-024
Rb-86	1.146512E+004	6.744905E+002	5.821696E-001	2.297486E-048
I-131E	1.777798E+005	1.043811E+004	9.009390E+000	6.227938E-018
I-131O	5.890426E+003	3.503846E+002	3.024257E-001	2.092623E-019
I-131P	3.513879E+006	2.067208E+005	1.784259E+002	7.041438E-046
I-132E	1.025057E-004	6.018741E-006	5.194926E-009	3.591406E-027
I-132O	3.396350E-006	2.020361E-007	1.743824E-010	1.206733E-028

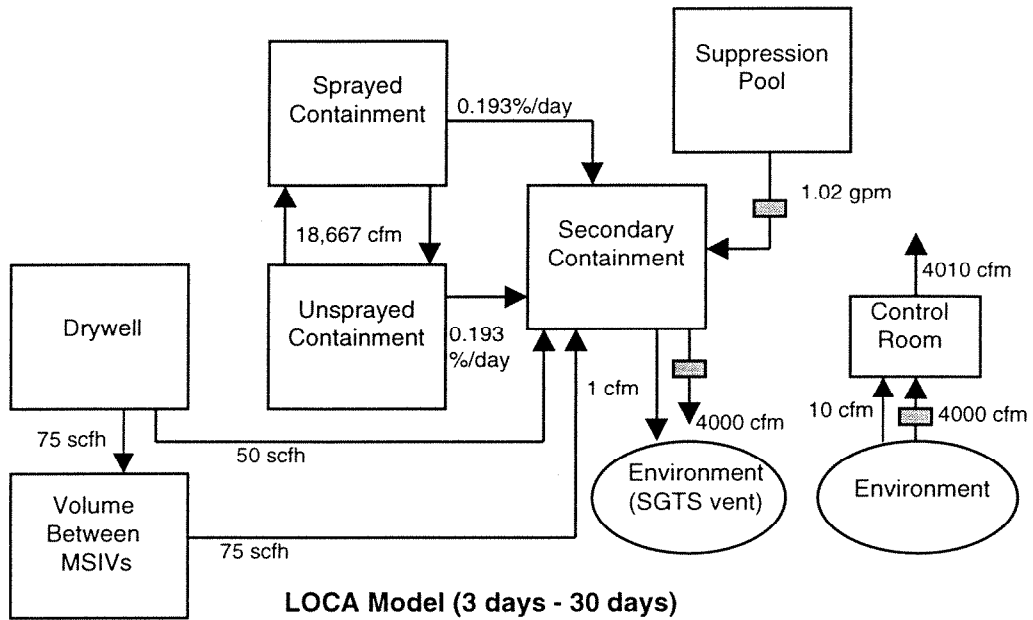
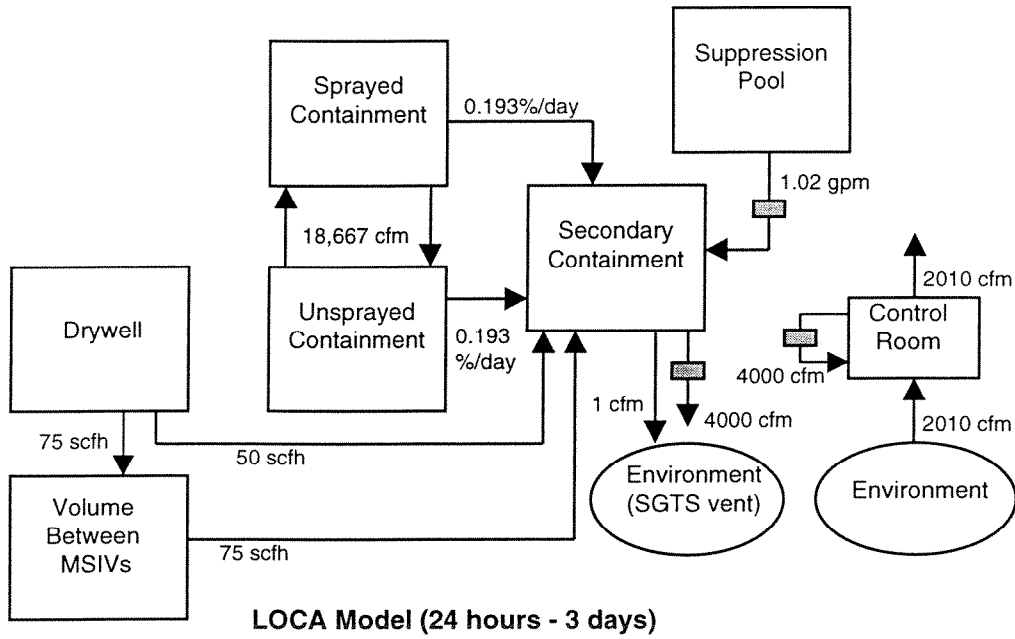
I-132P	2.026062E-003	1.191977E-004	1.028826E-007	4.060519E-055
I-133E	4.176167E+004	2.451991E+003	2.116375E+000	1.463003E-018
I-133O	1.383701E+003	8.230805E+001	7.104214E-002	4.915773E-020
I-133P	8.254339E+005	4.856030E+004	4.191361E+001	1.654102E-046
I-135E	2.154717E+002	1.265131E+001	1.091967E-002	7.548672E-021
I-135O	7.139281E+000	4.246772E-001	3.665495E-004	2.536397E-022
I-135P	4.258872E+003	2.505521E+002	2.162578E-001	8.534687E-049
Xe-133	6.730826E+006	4.003749E+005	3.455736E+002	2.391184E-016
Xe-135	1.645729E+004	9.789511E+002	8.449572E-001	5.846766E-019
Cs-134	1.420043E+006	8.354076E+004	7.210612E+001	2.845609E-046
Cs-136	3.566827E+005	2.098356E+004	1.811144E+001	7.147535E-047
Cs-137	7.292229E+005	4.290001E+004	3.702807E+001	1.461282E-046

## CASE 1 (MSIV FAILS OPENS)

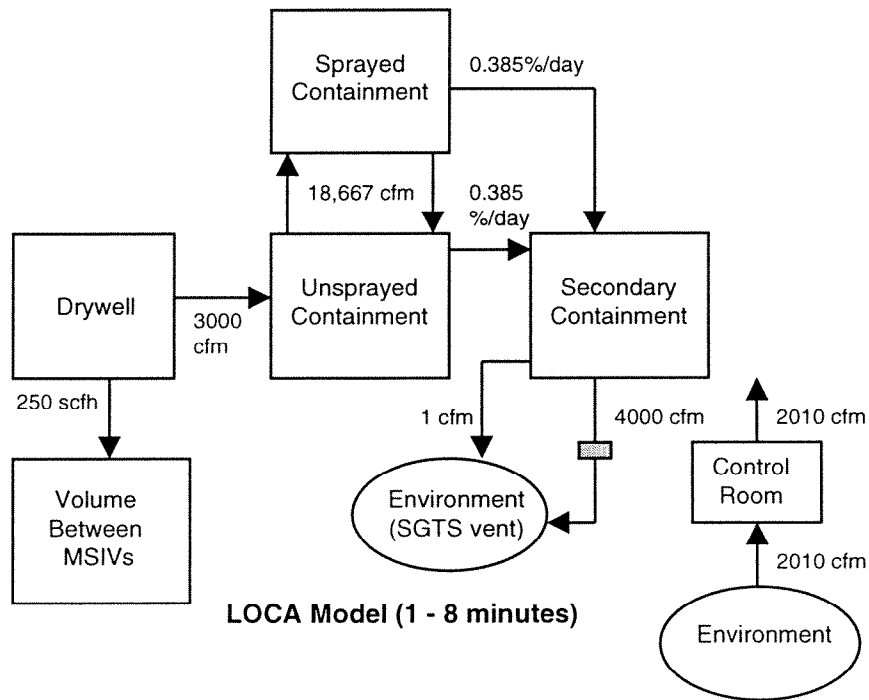
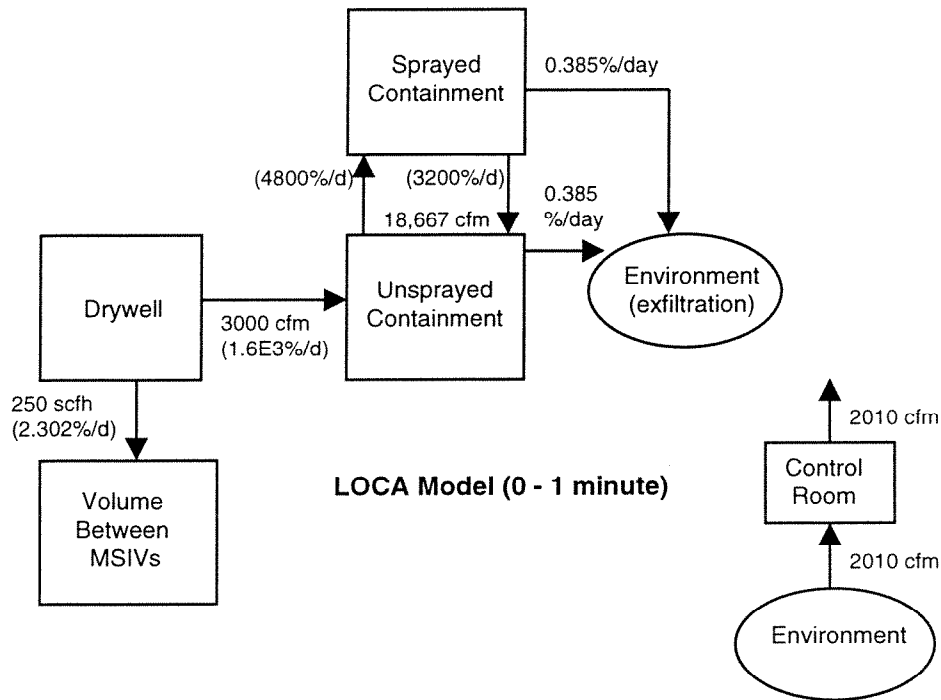


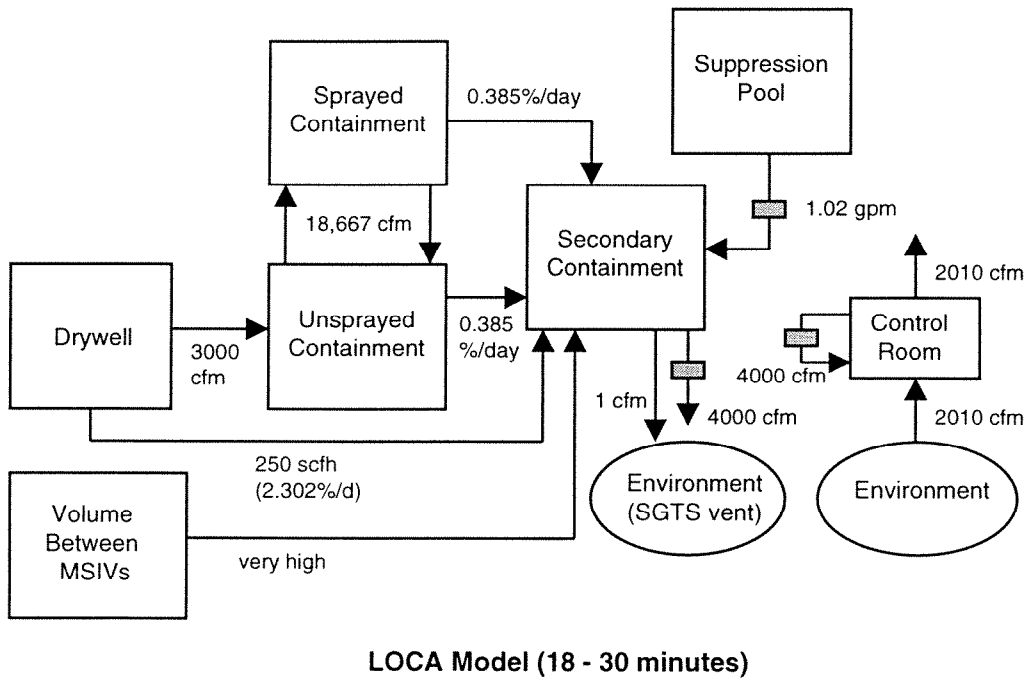
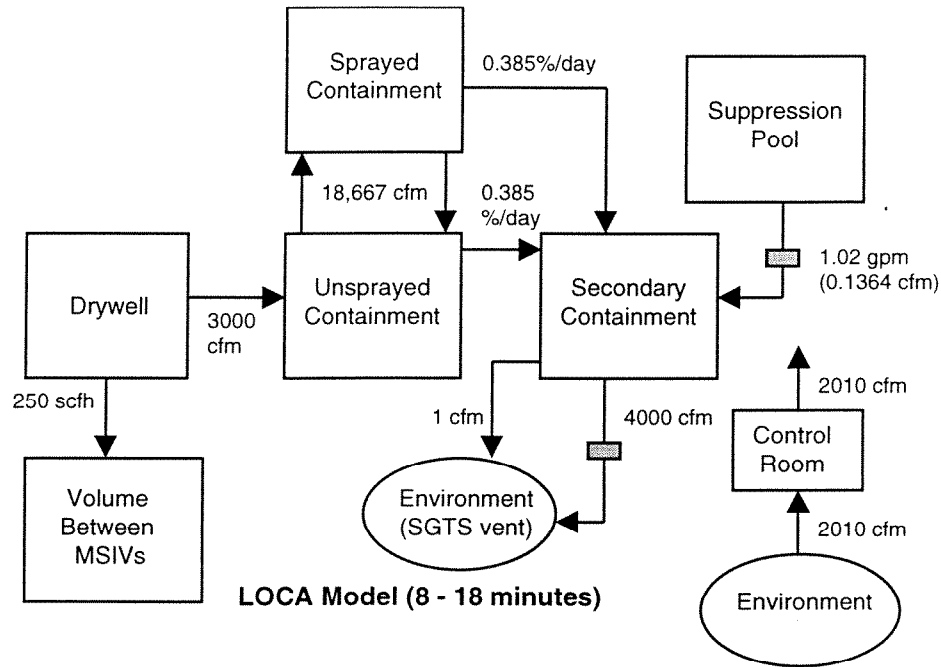


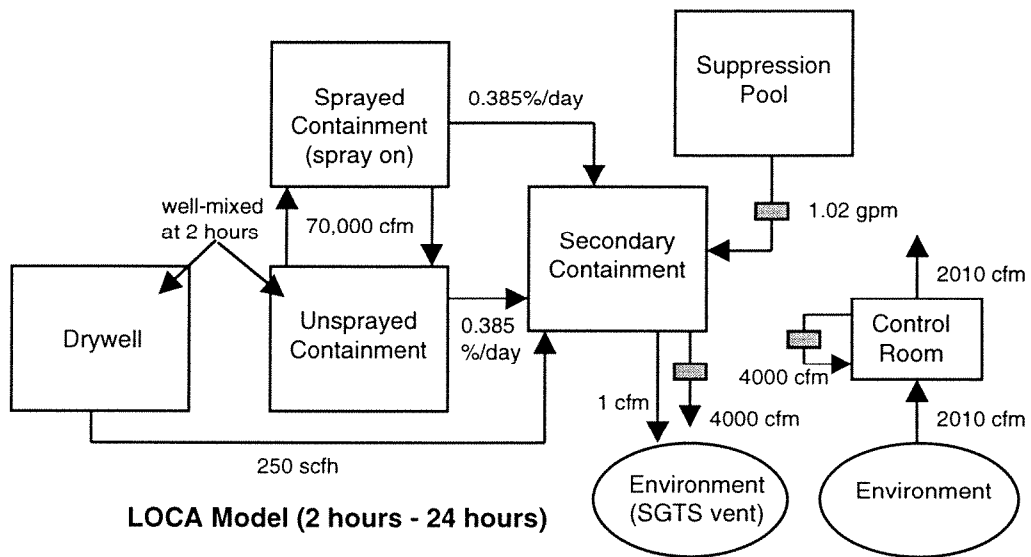
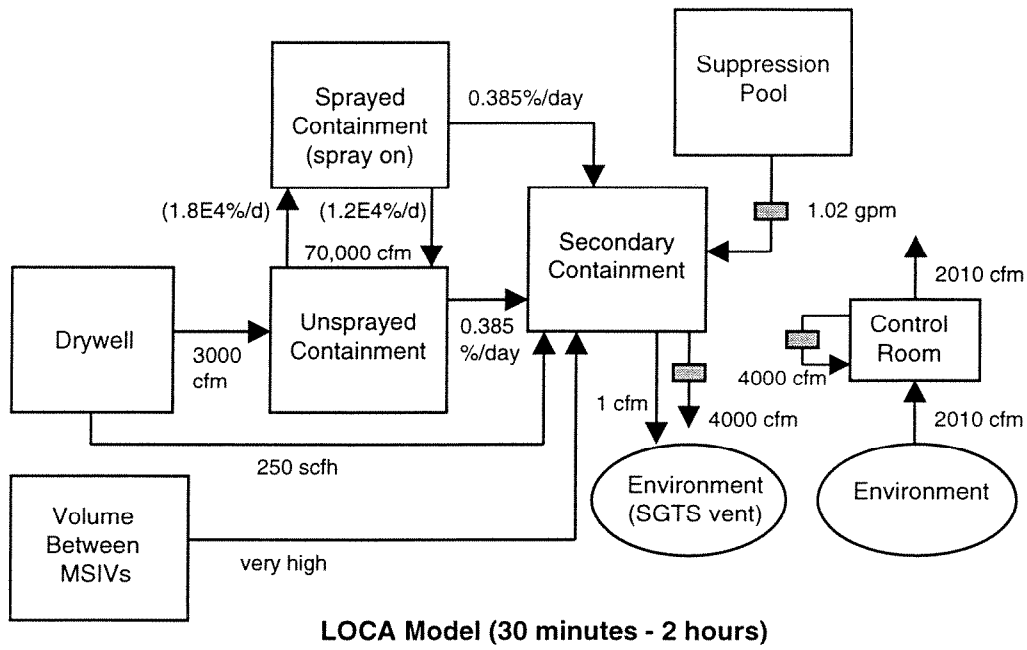


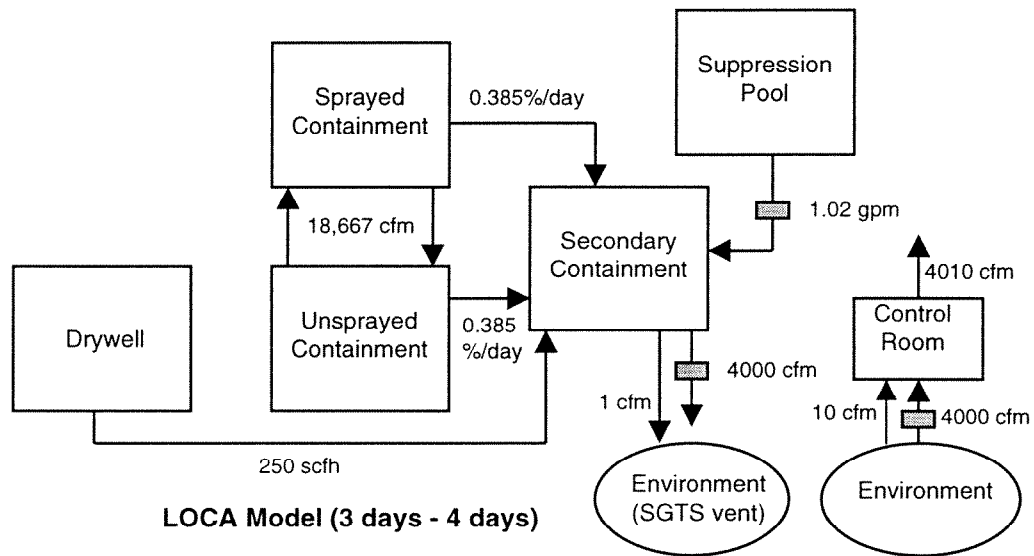
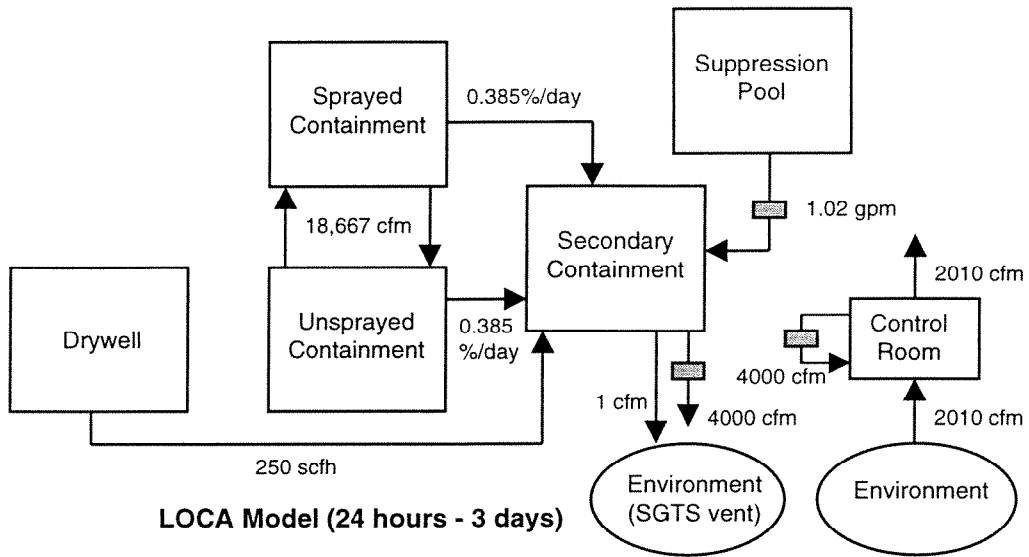


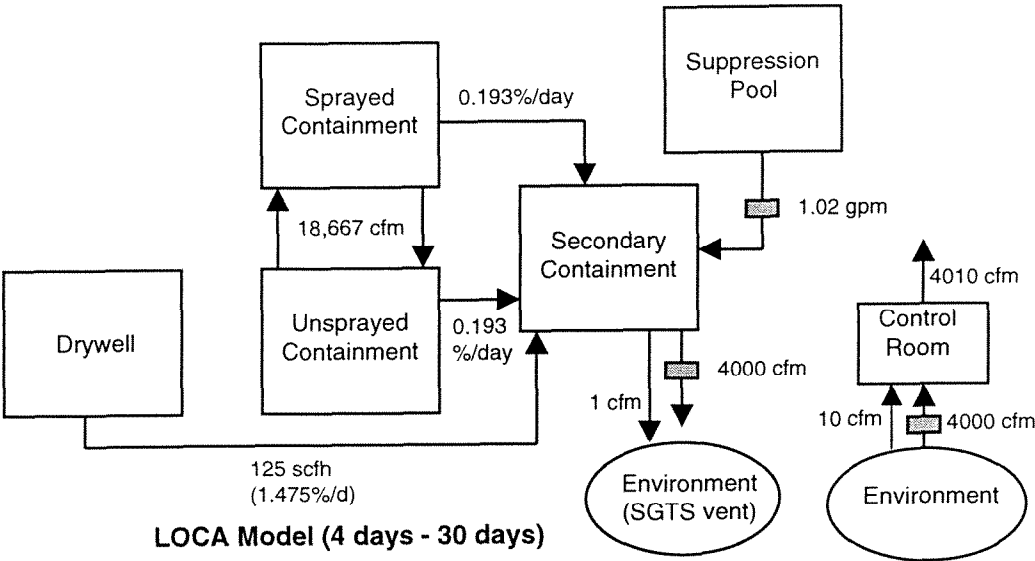
### CASE 2 (ELECTRICAL DIVSION FAILS)













NOBMETAL	0.000E+00	0.000E+00	1.000E+00
LANTHANM	0.000E+00	0.000E+00	1.000E+00
CERIUM	0.000E+00	0.000E+00	1.000E+00

VOLUME OF NODES (CU FT)				
Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
2.700E+05	8.400E+05	5.600E+05	3.000E+05	4.337E+02

CONTROL ROOM VOLUME (CU FT)  
2.530E+05

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE NAME	SPLIT	GROUP	SOURCE (CI/MWT)	DECAY CONST (1/HR)	DOSE CONVERSION FACTORS		
					WHOLEBDY	THYROID	INHALATN
CO 58	PART.	NOBMETAL	1.52900E+02	4.07926E-04	1.76120E-01	3.22640E+03	1.08780E+04
CO 60	PART.	NOBMETAL	1.83000E+02	1.50014E-05	4.66200E-01	5.99400E+04	2.18670E+05
BR 82	ELEM.	HALOGENS	9.45750E+00	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	ORG.	HALOGENS	2.92500E-01	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	PART.	HALOGENS	1.85250E+02	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 83	ELEM.	HALOGENS	1.70817E+02	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	ORG.	HALOGENS	5.28300E+00	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	PART.	HALOGENS	3.34590E+03	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 84	ELEM.	HALOGENS	3.00652E+02	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	ORG.	HALOGENS	9.29850E+00	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	PART.	HALOGENS	5.88905E+03	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
KR 85	ELEM.	NOBLES	3.88000E+02	7.37614E-06	4.40300E-04	0.00000E+00	0.00000E+00
KR 85M	ELEM.	NOBLES	9.11000E+03	1.54720E-01	2.76760E-02	0.00000E+00	0.00000E+00
KR 87	ELEM.	NOBLES	1.65700E+04	5.45070E-01	1.52440E-01	0.00000E+00	0.00000E+00
KR 88	ELEM.	NOBLES	2.23600E+04	2.44066E-01	3.77400E-01	0.00000E+00	0.00000E+00
RB 86	PART.	ALKMETAL	7.37600E+01	1.54776E-03	1.77970E-02	4.92100E+03	6.62300E+03
SR 89	PART.	BARSTRNT	2.79500E+04	5.71904E-04	2.86010E-04	2.94520E+01	4.14400E+04
SR 90	PART.	BARSTRNT	3.15100E+03	2.71539E-06	2.78610E-05	9.95300E+02	1.39900E+01
SR 91	PART.	BARSTRNT	3.60400E+04	7.29629E-02	1.82188E-01	3.67410E+01	1.68239E+03
SR 92	PART.	BARSTRNT	3.76500E+04	2.55774E-01	2.51230E-01	1.45040E+01	8.06600E+02
Y 90	PART.	LANTHANM	3.25100E+03	1.08304E-02	7.03000E-04	1.91290E+00	8.43600E+03
Y 91	PART.	LANTHANM	3.56000E+04	4.93610E-04	9.62000E-04	3.14500E+01	4.88400E+04
Y 92	PART.	LANTHANM	3.78000E+04	1.95804E-01	4.81000E-02	3.88500E+00	7.80700E+02
Y 93	PART.	LANTHANM	4.29800E+04	6.86284E-02	1.77600E-02	3.42620E+00	2.15340E+03
ZR 95	PART.	LANTHANM	4.66000E+04	4.51409E-04	1.33200E-01	5.32800E+03	2.36430E+04
ZR 97	PART.	LANTHANM	4.58700E+04	4.10146E-02	1.63984E-01	8.56550E+01	4.33270E+03
NB 95	PART.	LANTHANM	4.67500E+04	8.21654E-04	1.38380E-01	1.32460E+03	5.80900E+03
MO 99	PART.	NOBMETAL	5.13800E+04	1.05022E-02	2.69360E-02	5.62400E+01	3.95900E+03
TC 99M	PART.	NOBMETAL	4.49900E+04	1.15141E-01	2.17930E-02	1.85370E+02	3.25600E+01
RU 103	PART.	NOBMETAL	4.51900E+04	7.5263E-04	8.32870E-02	9.50900E+02	8.95770E+03
RU 105	PART.	NOBMETAL	3.30400E+04	1.56114E-01	1.40970E-01	1.53550E+01	4.55100E+02
RU 106	PART.	NOBMETAL	1.96800E+04	7.84387E-05	3.84800E-02	6.36400E+03	4.77300E+05
RH 105	PART.	NOBMETAL	3.08700E+04	1.96026E-02	1.37640E-02	1.06560E+01	9.54600E+02
SB 125	PART.	TELLURM	5.55500E+02	2.86701E-05	7.47400E-02	1.19880E+03	1.22100E+04
SB 127	PART.	TELLURM	2.23400E+04	7.50159E-03	1.23210E-01	2.27550E+02	6.03100E+03
SB 129	PART.	TELLURM	9.30900E+03	1.60451E-01	2.64180E-01	3.59640E+01	6.43800E+02
TE 127	PART.	TELLURM	3.22000E+03	7.41334E-02	8.95400E-04	6.80800E+00	3.18200E+02
TE 127M	PART.	TELLURM	4.29700E+02	2.64965E-04	5.43900E-04	3.57420E+02	2.14970E+04
TE 129	PART.	TELLURM	9.16100E+03	5.97541E-01	1.01750E-02	1.88335E+00	7.73300E+01
TE 129M	PART.	TELLURM	1.99000E+03	8.59558E-04	4.58264E+00	1.42438E+03	5.87235E+04
TE 131M	PART.	TELLURM	4.07900E+03	2.31049E-02	1.56193E+00	4.83350E+05	1.97729E+04
TE 132	PART.	TELLURM	3.90800E+04	8.86378E-03	1.42513E+01	4.53172E+05	2.25061E+04
TE 133M	PART.	TELLURM	2.06800E+04	8.31600E-01	5.24691E-01	1.89733E+04	7.17460E+02
TE 134	PART.	TELLURM	4.68800E+04	9.90000E-01	5.41680E-01	2.90968E+03	2.24590E+02
I 131	ELEM.	HALOGENS	1.33715E+03	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	ORG.	HALOGENS	4.13550E+01	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	PART.	HALOGENS	2.61915E+04	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 132	ELEM.	HALOGENS	1.92885E+03	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	ORG.	HALOGENS	5.96550E+01	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	PART.	HALOGENS	3.77815E+04	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 133	ELEM.	HALOGENS	2.67429E+03	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	ORG.	HALOGENS	8.27100E+01	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	PART.	HALOGENS	5.23830E+04	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 134	ELEM.	HALOGENS	2.94589E+03	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	ORG.	HALOGENS	9.11100E+01	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	PART.	HALOGENS	5.77030E+04	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE NAME	SPLIT	GROUP	SOURCE (CI/MWT)	DECAY CONST (1/HR)	DOSE CONVERSION FACTORS		
					WHOLEBDY	THYROID	INHALATN
I 135	ELEM.	HALOGENS	2.49921E+03	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	ORG.	HALOGENS	7.72950E+01	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	PART.	HALOGENS	4.89535E+04	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
XE 133	ELEM.	NOBLES	5.42500E+04	5.50641E-03	5.77200E-03	0.00000E+00	0.00000E+00
XE 135	ELEM.	NOBLES	2.15400E+04	7.62538E-02	4.40300E-02	0.00000E+00	0.00000E+00

CS 134	PART. ALKMETAL	8.19400E+03	3.83473E-05	2.80090E-01	4.10700E+04	4.62500E+04
CS 136	PART. ALKMETAL	2.40400E+03	2.20467E-03	3.92200E-01	6.40100E+03	7.32600E+03
CS 137	PART. ALKMETAL	4.19700E+03	2.63574E-06	1.00825E-01	2.93410E+04	3.19310E+04
CS 138	PART. ALKMETAL	5.10200E+04	1.29132E+00	4.47700E-01	1.32090E+01	1.01380E+02
BA 139	PART. BARSTRNT	4.99400E+04	5.02888E-01	8.02900E-03	8.88000E+00	1.71680E+02
BA 140	PART. BARSTRNT	4.92700E+04	2.26696E-03	3.17460E-02	9.47200E+02	3.73700E+03
LA 140	PART. LANTHANM	5.06900E+04	1.72116E-02	4.32900E-01	2.54190E+02	4.84700E+03
LA 141	PART. LANTHANM	4.64200E+04	1.76373E-01	8.84300E-03	3.47800E+01	5.80900E+02
LA 142	PART. LANTHANM	4.46600E+04	4.49609E-01	5.32800E-01	3.23380E+01	2.53080E+02
CE 141	PART. CERIUM	4.56800E+04	8.88623E-04	1.26910E-02	9.43500E+01	8.95400E+03
CE 143	PART. CERIUM	4.35500E+04	2.10045E-02	4.77300E-02	2.30510E+01	3.38920E+03
CE 144	PART. CERIUM	3.57500E+04	1.01587E-04	1.02601E-02	1.08040E+03	3.73700E+05
PR 143	PART. LANTHANM	4.26300E+04	2.12988E-03	7.77000E-05	6.21600E-06	8.10300E+03
ND 147	PART. LANTHANM	1.90500E+04	2.63034E-03	2.29030E-02	6.73400E+01	6.84500E+03
NP 238	PART. CERIUM	1.58000E+04	1.37484E-02	1.00640E-01	9.06500E+01	3.70000E+04
NP 239	PART. CERIUM	6.57000E+05	1.22637E-02	2.84530E-02	2.81940E+01	2.50860E+03
PU 238	PART. CERIUM	1.89500E+02	9.01211E-07	1.80560E-05	1.42820E+03	2.88230E+08
PU 239	PART. CERIUM	1.36600E+01	3.28578E-09	1.56880E-05	1.38750E+03	3.08210E+08
PU 240	PART. CERIUM	2.06900E+01	1.20961E-08	1.75750E-05	1.39120E+03	3.08210E+08
PU 241	PART. CERIUM	5.55000E+03	5.49113E-06	2.68250E-07	3.38550E+01	4.95800E+06
AM 241	PART. LANTHANM	7.13000E+00	1.82953E-07	3.02660E-03	5.92000E+03	4.44000E+08
CM 242	PART. LANTHANM	2.16900E+03	1.77403E-04	2.10530E-05	3.48170E+03	1.72790E+07
CM 244	PART. LANTHANM	4.57800E+02	4.36622E-06	1.81670E-05	3.73700E+03	2.47900E+08

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TIME INTERVAL	0	0	0	0	2	0.00000E+00	1.66700E-02
RELEASE FRACTION	1	0	0	0	1	1.00000E-01	
RELEASE FRACTION	2	0	0	0	1	1.00000E-01	
RELEASE FRACTION	3	0	0	0	1	1.00000E-01	
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.60000E+03		0.00000E+00		1.38100E+00		
TRANSFER PERCENT	0	0	0	2	5	3.85000E-01	0.00000E+00
0.00000E+00	3.20000E+03		0.00000E+00				
TRANSFER PERCENT	0	0	0	3	5	3.85000E-01	0.00000E+00
4.80000E+03	0.00000E+00		0.00000E+00				
TRANSFER CFM	0	0	0	1	1	1.72700E+00	
FILTER EFF	1	1	0	1	1	1.00000E+02	
FILTER EFF	2	1	0	1	1	1.00000E+02	
FILTER EFF	2	2	0	1	1	1.00000E+02	
FILTER EFF	2	3	0	1	1	1.00000E+02	
FILTER EFF	3	3	0	1	1	1.00000E+02	
REMOVAL RATE	2	1	0	0	5	8.66000E-01	6.82300E-01
1.09200E+00	0.00000E+00		3.04400E+01				
REMOVAL RATE	2	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	3	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	4	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	5	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	6	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	7	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
REMOVAL RATE	8	3	0	0	5	7.47400E-01	0.00000E+00
0.00000E+00	0.00000E+00		7.47400E-01				
TRANSFER CFM	0	0	0	4	1	5.00000E-04	
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00		1.00000E+00				
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
1.25000E-04	3.50000E-04		7.50000E-03		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	1.66700E-02	1.00000E-01
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00	3.20000E+03		3.85000E-01				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
4.80000E+03	0.00000E+00		3.85000E-01				
TRANSFER CFM	0	0	0	4	1	4.00100E+03	
FILTER EFF	2	1	0	4	1	9.89750E+01	
FILTER EFF	2	2	0	4	1	9.89750E+01	
FILTER EFF	2	3	0	4	1	9.89750E+01	
FILTER EFF	3	3	0	4	1	9.89750E+01	
FILTER EFF	4	3	0	4	1	9.89750E+01	
FILTER EFF	5	3	0	4	1	9.89750E+01	
FILTER EFF	6	3	0	4	1	9.89750E+01	
FILTER EFF	7	3	0	4	1	9.89750E+01	
FILTER EFF	8	3	0	4	1	9.89750E+01	
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
1.25000E-04	3.50000E-04		8.00000E-04		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	1.00000E-01	2.00000E-01
TIME INTERVAL	0	0	0	0	2	2.00000E-01	3.00000E-01

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TIME INTERVAL	0	0	0	0	2	3.00000E-01	4.00000E-01
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TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.60000E+03		9.20900E-01			1.38100E+00	
TRANSFER PERCENT	0	0	0	5	5	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00		8.60000E+02				
TRANSFER CFM	0	0	0	1	1	0.00000E+00	
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	4.00000E+03		1.00000E+00				
CR FILTER EFF	2	1	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	2	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	3	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	4	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	5	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	6	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	7	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	8	3	0	0	2	9.90000E+01	9.90000E+01
TIME INTERVAL	0	0	0	0	2	4.00000E-01	5.00000E-01
TIME INTERVAL	0	0	0	0	2	5.00000E-01	6.00000E-01
RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	
RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
REMOVAL RATE	2	1	0	0	5	8.66000E-01	2.06800E+01
1.09200E+00	0.00000E+00		3.04400E+01				
REMOVAL RATE	2	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	3	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	4	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	5	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	6	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	7	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
REMOVAL RATE	8	3	0	0	5	2.98300E-01	9.51000E+00
0.00000E+00	0.00000E+00		2.98300E-01				
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00	1.20000E+04		3.85000E-01				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
1.80000E+04	0.00000E+00		3.85000E-01				
TIME INTERVAL	0	0	0	0	2	6.00000E-01	7.00000E-01
TIME INTERVAL	0	0	0	0	2	7.00000E-01	8.00000E-01
TIME INTERVAL	0	0	0	0	2	8.00000E-01	9.00000E-01
TIME INTERVAL	0	0	0	0	2	9.00000E-01	1.00000E+00
TIME INTERVAL	0	0	0	0	2	1.00000E+00	1.10000E+00
RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	

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RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
TIME INTERVAL	0	0	0	0	2	1.10000E+00	1.20000E+00
TIME INTERVAL	0	0	0	0	2	1.20000E+00	1.30000E+00
TIME INTERVAL	0	0	0	0	2	1.30000E+00	1.40000E+00
TIME INTERVAL	0	0	0	0	2	1.40000E+00	1.50000E+00
TIME INTERVAL	0	0	0	0	2	1.50000E+00	1.60000E+00

RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	
RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
TIME INTERVAL	0	0	0	0	2	1.60000E+00	1.70000E+00
TIME INTERVAL	0	0	0	0	2	1.70000E+00	1.80000E+00
TIME INTERVAL	0	0	0	0	2	1.80000E+00	1.90000E+00
TIME INTERVAL	0	0	0	0	2	1.90000E+00	2.00000E+00
TIME INTERVAL	0	0	0	0	2	2.00000E+00	2.00028E+00
RELEASE FRACTION	1	0	0	0	1	0.00000E+00	
RELEASE FRACTION	2	0	0	0	1	0.00000E+00	
RELEASE FRACTION	3	0	0	0	1	0.00000E+00	
RELEASE FRACTION	4	0	0	0	1	0.00000E+00	
RELEASE FRACTION	5	0	0	0	1	0.00000E+00	
RELEASE FRACTION	6	0	0	0	1	0.00000E+00	
RELEASE FRACTION	7	0	0	0	1	0.00000E+00	
RELEASE FRACTION	8	0	0	0	1	0.00000E+00	
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.00000E+10	9.20900E-01				1.38100E+00	
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	4.82100E+09
1.80000E+04	0.00000E+00	3.85000E-01					
REMOVAL RATE	2	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	3	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	4	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	5	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	6	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	7	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	8	3	0	0	5	1.05500E+00	9.51000E+00
0.00000E+00	0.00000E+00	1.05500E+00					
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
6.00000E-05	3.50000E-04	5.00000E-04				3.50000E-04	0.00000E+00
TIME INTERVAL	0	0	0	0	2	2.00028E+00	2.10000E+00
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00	9.20900E-01				1.38100E+00	
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
1.80000E+04	0.00000E+00	3.85000E-01					
TIME INTERVAL	0	0	0	0	2	2.10000E+00	2.20000E+00

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TIME INTERVAL	0	0	0	0	2	2.20000E+00	2.30000E+00
TIME INTERVAL	0	0	0	0	2	2.30000E+00	2.40000E+00
TIME INTERVAL	0	0	0	0	2	2.40000E+00	2.50000E+00
TIME INTERVAL	0	0	0	0	2	2.50000E+00	2.60000E+00
TIME INTERVAL	0	0	0	0	2	2.60000E+00	2.70000E+00
TIME INTERVAL	0	0	0	0	2	2.70000E+00	2.80000E+00
TIME INTERVAL	0	0	0	0	2	2.80000E+00	2.90000E+00
REMOVAL RATE	2	1	0	0	5	8.66000E-01	0.00000E+00
0.00000E+00	0.00000E+00	3.04400E+01					
TIME INTERVAL	0	0	0	0	2	2.90000E+00	3.00000E+00
TIME INTERVAL	0	0	0	0	2	3.00000E+00	3.10000E+00
REMOVAL RATE	2	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	3	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00	1.05500E+00					
REMOVAL RATE	4	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00	1.05500E+00					

REMOVAL RATE	5	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00		1.05500E+00				
REMOVAL RATE	6	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00		1.05500E+00				
REMOVAL RATE	7	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00		1.05500E+00				
REMOVAL RATE	8	3	0	0	5	1.05500E+00	9.51000E-01
0.00000E+00	0.00000E+00		1.05500E+00				
TIME INTERVAL	0	0	0	0	2	3.10000E+00	3.20000E+00
TIME INTERVAL	0	0	0	0	2	3.20000E+00	3.30000E+00
TIME INTERVAL	0	0	0	0	2	3.30000E+00	3.40000E+00
TIME INTERVAL	0	0	0	0	2	3.40000E+00	3.50000E+00
TIME INTERVAL	0	0	0	0	2	3.50000E+00	3.60000E+00
TIME INTERVAL	0	0	0	0	2	3.60000E+00	3.70000E+00
TIME INTERVAL	0	0	0	0	2	3.70000E+00	3.80000E+00
TIME INTERVAL	0	0	0	0	2	3.80000E+00	3.90000E+00
TIME INTERVAL	0	0	0	0	2	3.90000E+00	4.00000E+00
TIME INTERVAL	0	0	0	0	2	4.00000E+00	4.10000E+00
TIME INTERVAL	0	0	0	0	2	4.10000E+00	4.20000E+00
TIME INTERVAL	0	0	0	0	2	4.20000E+00	4.30000E+00
TIME INTERVAL	0	0	0	0	2	4.30000E+00	4.40000E+00
TIME INTERVAL	0	0	0	0	2	4.40000E+00	4.50000E+00
TIME INTERVAL	0	0	0	0	2	4.50000E+00	4.60000E+00
TIME INTERVAL	0	0	0	0	2	4.60000E+00	4.70000E+00
TIME INTERVAL	0	0	0	0	2	4.70000E+00	4.80000E+00
TIME INTERVAL	0	0	0	0	2	4.80000E+00	4.90000E+00
TIME INTERVAL	0	0	0	0	2	4.90000E+00	5.00000E+00
TIME INTERVAL	0	0	0	0	2	5.00000E+00	5.10000E+00
REMOVAL RATE	2	3	0	0	5	6.39000E-01	9.51000E-01
0.00000E+00	0.00000E+00		6.39000E-01				
REMOVAL RATE	3	3	0	0	5	6.39000E-01	9.51000E-01
0.00000E+00	0.00000E+00		6.39000E-01				
REMOVAL RATE	4	3	0	0	5	6.39000E-01	9.51000E-01
0.00000E+00	0.00000E+00		6.39000E-01				
REMOVAL RATE	5	3	0	0	5	6.39000E-01	9.51000E-01
0.00000E+00	0.00000E+00		6.39000E-01				
REMOVAL RATE	6	3	0	0	5	6.39000E-01	9.51000E-01
0.00000E+00	0.00000E+00		6.39000E-01				
REMOVAL RATE	7	3	0	0	5	6.39000E-01	9.51000E-01

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0.00000E+00	0.00000E+00	6.39000E-01				
REMOVAL RATE	8	3	0	0	5	6.39000E-01
0.00000E+00	0.00000E+00		6.39000E-01			
TIME INTERVAL	0	0	0	0	2	5.10000E+00
TIME INTERVAL	0	0	0	0	2	5.20000E+00
TIME INTERVAL	0	0	0	0	2	5.30000E+00
TIME INTERVAL	0	0	0	0	2	5.40000E+00
TIME INTERVAL	0	0	0	0	2	5.50000E+00
TIME INTERVAL	0	0	0	0	2	5.60000E+00
TIME INTERVAL	0	0	0	0	2	5.70000E+00
TIME INTERVAL	0	0	0	0	2	5.80000E+00
TIME INTERVAL	0	0	0	0	2	5.90000E+00
TIME INTERVAL	0	0	0	0	2	6.00000E+00
TIME INTERVAL	0	0	0	0	2	7.00000E+00
REMOVAL RATE	2	1	0	0	5	0.00000E+00
0.00000E+00	0.00000E+00		0.00000E+00			
TIME INTERVAL	0	0	0	0	2	8.00000E+00
DOSE PARAMS	0	0	0	0	7	6.00000E-04
4.50000E-05	1.80000E-04		2.50000E-04		3.50000E-04	0.00000E+00
TIME INTERVAL	0	0	0	0	2	8.33000E+00
REMOVAL RATE	2	3	0	0	5	5.57100E-01
0.00000E+00	0.00000E+00		5.57100E-01			
REMOVAL RATE	3	3	0	0	5	5.57100E-01
0.00000E+00	0.00000E+00		5.57100E-01			
REMOVAL RATE	4	3	0	0	5	5.57100E-01

0.00000E+00	0.00000E+00	5.57100E-01				
REMOVAL RATE	5	3	0	0	5	5.57100E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.57100E-01				
REMOVAL RATE	6	3	0	0	5	5.57100E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.57100E-01				
REMOVAL RATE	7	3	0	0	5	5.57100E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.57100E-01				
REMOVAL RATE	8	3	0	0	5	5.57100E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.57100E-01				
TIME INTERVAL	0	0	0	0	2	1.20000E+01 1.94000E+01
REMOVAL RATE	2	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
REMOVAL RATE	3	3	0	0	1	5.23600E-01
REMOVAL RATE	4	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
REMOVAL RATE	5	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
REMOVAL RATE	6	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
REMOVAL RATE	7	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
REMOVAL RATE	8	3	0	0	5	5.23600E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.23600E-01				
TIME INTERVAL	0	0	0	0	2	1.94000E+01 2.40000E+01
REMOVAL RATE	2	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	3	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	4	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	5	3	0	0	5	5.06800E-01 9.51000E-01

TIME DEPENDENT INPUT  
CASE NUMBER 1

0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	6	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	7	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
REMOVAL RATE	8	3	0	0	5	5.06800E-01 9.51000E-01
0.00000E+00	0.00000E+00	5.06800E-01				
TIME INTERVAL	0	0	0	0	2	2.40000E+01 7.20000E+01
REMOVAL RATE	2	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	3	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	4	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	5	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	6	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	7	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
REMOVAL RATE	8	3	0	0	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	0.00000E+00				
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	5.90000E-01			8.85000E-01	
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00 0.00000E+00
0.00000E+00	3.20000E+03	1.92500E-01				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00 0.00000E+00
4.80000E+03	0.00000E+00	1.92500E-01				
TRANSFER PERCENT	0	0	0	5	5	0.00000E+00 0.00000E+00
0.00000E+00	0.00000E+00	5.50800E+02				
CONTROL ROOM	0	0	0	0	5	2.01000E+03 0.00000E+00
2.01000E+03	4.00000E+03	6.00000E-01				
DOSE PARAMS	0	0	0	0	7	6.00000E-04 3.50000E-04

2.00000E-05	2.30000E-04	1.60000E-04	3.50000E-04	0.00000E+00		
TIME INTERVAL	0	0	0	0	2	7.20000E+01 9.60000E+01
CONTROL ROOM	0	0	0	0	5	1.00000E+01 4.00000E+03
4.01000E+03	0.00000E+00	6.00000E-01				
TIME INTERVAL	0	0	0	0	2	9.60000E+01 7.20000E+02
CONTROL ROOM	0	0	0	0	5	1.00000E+01 4.00000E+03
4.01000E+03	0.00000E+00	4.00000E-01				
DOSE PARAMS	0	0	0	0	7	6.00000E-04 3.50000E-04
7.00000E-06	2.30000E-04	1.30000E-04	3.50000E-04	0.00000E+00		

ACTIVITIES (CI) AT END OF TIME STEP 22

CASE NUMBER 1

STEP START TIME AT 2.000E+00 (HRS) STEP END TIME AT 2.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.939E+08	3.939E+08	1.010E+08	8.329E+07	2.095E+08	8.438E+04	1.067E+05
HALOGENS	ELEM.	1.058E+08	3.531E+06	1.120E+06	8.769E+04	2.322E+06	9.677E+02	5.839E+01
	ORG.		2.881E+05	7.168E+04	6.755E+04	1.487E+05	6.683E+01	8.306E+01
	PART.		1.019E+08	3.133E+07	5.555E+06	6.499E+07	3.140E+04	3.719E+04
ALKMETAL	PART.	1.078E+07	1.078E+07	3.312E+06	5.889E+05	6.871E+06	3.415E+03	4.028E+03
TELLURM	PART.	1.147E+07	1.147E+07	3.531E+06	6.065E+05	7.324E+06	3.024E+03	3.660E+03
BARSTRNT	PART.	7.668E+06	7.668E+06	2.361E+06	4.061E+05	4.896E+06	2.026E+03	2.451E+03
NOBMETAL	PART.	1.269E+06	1.269E+06	3.906E+05	6.733E+04	8.101E+05	3.361E+02	4.066E+02
LANTHANM	PART.	1.993E+05	1.993E+05	6.136E+04	1.057E+04	1.273E+05	5.276E+01	6.385E+01
CERIUM	PART.	9.636E+05	9.636E+05	2.966E+05	5.118E+04	6.152E+05	2.555E+02	3.092E+02

ACTIVITIES (CI) AT END OF TIME STEP 30

CASE NUMBER 1

STEP START TIME AT 2.700E+00 (HRS) STEP END TIME AT 2.800E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.666E+08	3.666E+08	9.391E+07	1.635E+08	1.090E+08	1.111E+05	1.122E+05
HALOGENS	ELEM.	1.608E+07	5.121E+05	4.982E+05	3.727E+03	9.469E+03	6.513E+02	9.578E+00
	ORG.		2.566E+05	6.380E+04	1.156E+05	7.706E+04	8.067E+01	8.113E+01
	PART.		1.531E+07	1.199E+07	1.360E+06	1.915E+06	2.541E+04	1.551E+04
ALKMETAL	PART.	1.503E+06	1.503E+06	1.178E+06	1.336E+05	1.881E+05	2.554E+03	1.553E+03
TELLURM	PART.	1.737E+06	1.737E+06	1.361E+06	1.542E+05	2.171E+05	2.586E+03	1.607E+03
BARSTRNT	PART.	1.185E+06	1.185E+06	9.289E+05	1.052E+05	1.482E+05	1.765E+03	1.097E+03
NOBMETAL	PART.	2.068E+05	2.068E+05	1.621E+05	1.837E+04	2.586E+04	3.085E+02	1.917E+02
LANTHANM	PART.	3.209E+04	3.209E+04	2.515E+04	2.850E+03	4.013E+03	4.785E+01	2.974E+01
CERIUM	PART.	1.612E+05	1.612E+05	1.263E+05	1.431E+04	2.015E+04	2.406E+02	1.495E+02

ACTIVITIES (CI) AT END OF TIME STEP 32

CASE NUMBER 1

STEP START TIME AT 2.900E+00 (HRS) STEP END TIME AT 3.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.607E+08	3.607E+08	9.238E+07	1.608E+08	1.072E+08	1.151E+05	1.130E+05
HALOGENS	ELEM.	1.163E+07	4.220E+05	4.086E+05	7.386E+03	5.483E+03	5.739E+02	7.854E+00
	ORG.		2.503E+05	6.222E+04	1.128E+05	7.517E+04	8.234E+01	8.059E+01
	PART.		1.095E+07	9.469E+06	6.021E+05	8.478E+05	2.284E+04	1.245E+04
ALKMETAL	PART.	1.074E+06	1.074E+06	9.284E+05	5.905E+04	8.315E+04	2.291E+03	1.244E+03
TELLURM	PART.	1.249E+06	1.249E+06	1.080E+06	6.862E+04	9.663E+04	2.349E+03	1.308E+03
BARSTRNT	PART.	8.528E+05	8.528E+05	7.375E+05	4.684E+04	6.596E+04	1.603E+03	8.930E+02
NOBMETAL	PART.	1.505E+05	1.505E+05	1.301E+05	8.267E+03	1.164E+04	2.833E+02	1.578E+02
LANTHANM	PART.	2.330E+04	2.330E+04	2.015E+04	1.280E+03	1.802E+03	4.384E+01	2.441E+01
CERIUM	PART.	1.180E+05	1.180E+05	1.020E+05	6.481E+03	9.126E+03	2.222E+02	1.238E+02

ACTIVITIES (CI) AT END OF TIME STEP 63

CASE NUMBER 1

STEP START TIME AT 6.000E+00 (HRS) STEP END TIME AT 7.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	2.866E+08	2.866E+08	7.320E+07	1.279E+08	8.527E+07	1.246E+05	1.111E+05
HALOGENS	ELEM.	5.449E+05	1.844E+04	9.157E+03	5.546E+03	3.697E+03	3.500E+01	1.760E-01
	ORG.		1.800E+05	4.461E+04	8.112E+04	5.408E+04	7.759E+01	6.847E+01
	PART.		3.465E+05	2.291E+05	6.720E+04	4.836E+04	1.463E+03	3.528E+02
ALKMETAL	PART.	4.288E+04	4.288E+04	2.835E+04	8.317E+03	5.986E+03	1.835E+02	4.383E+01
TELLURM	PART.	4.658E+04	4.658E+04	3.082E+04	9.029E+03	6.498E+03	1.857E+02	4.669E+01
BARSTRNT	PART.	2.930E+04	2.930E+04	1.938E+04	5.678E+03	4.087E+03	1.167E+02	2.936E+01
NOBMETAL	PART.	5.735E+03	5.735E+03	3.795E+03	1.112E+03	8.001E+02	2.286E+01	5.749E+00
LANTHANM	PART.	8.745E+02	8.745E+02	5.786E+02	1.695E+02	1.220E+02	3.485E+00	8.766E-01
CERIUM	PART.	4.957E+03	4.957E+03	3.280E+03	9.608E+02	6.915E+02	1.976E+01	4.969E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR WHOLEBDY DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	2.120E-06	2.120E-06	4.416E-07	4.416E-07	5.980E-09	5.980E-09
1.667E-02	1.057E-06	3.177E-06	2.202E-07	6.618E-07	5.862E-08	6.460E-08
1.000E-01	1.529E-05	1.846E-05	3.185E-06	3.846E-06	9.282E-08	1.574E-07
2.000E-01	6.267E-05	8.113E-05	1.306E-05	1.690E-05	2.217E-07	3.791E-07
3.000E-01	1.602E-03	1.683E-03	3.337E-04	3.506E-04	3.139E-06	3.518E-06
4.000E-01	4.955E-03	6.638E-03	1.032E-03	1.383E-03	1.439E-05	1.791E-05
5.000E-01	9.461E-03	1.610E-02	1.971E-03	3.354E-03	3.850E-05	5.641E-05
6.000E-01	1.761E-02	3.371E-02	3.668E-03	7.022E-03	8.290E-05	1.393E-04
7.000E-01	2.959E-02	6.330E-02	6.166E-03	1.319E-02	1.591E-04	2.984E-04
8.000E-01	4.494E-02	1.082E-01	9.364E-03	2.255E-02	2.774E-04	5.759E-04
9.000E-01	6.322E-02	1.715E-01	1.317E-02	3.572E-02	4.457E-04	1.022E-03
1.000E+00	8.393E-02	2.554E-01	1.749E-02	5.321E-02	6.696E-04	1.691E-03
1.100E+00	1.063E-01	3.617E-01	2.215E-02	7.536E-02	9.523E-04	2.644E-03
1.200E+00	1.300E-01	4.918E-01	2.709E-02	1.025E-01	1.295E-03	3.938E-03
1.300E+00	1.549E-01	6.466E-01	3.226E-02	1.347E-01	1.697E-03	5.635E-03
1.400E+00	1.806E-01	8.272E-01	3.762E-02	1.723E-01	2.158E-03	7.794E-03
1.500E+00	2.069E-01	1.034E+00	4.311E-02	2.154E-01	2.677E-03	1.047E-02
1.600E+00	2.334E-01	1.268E+00	4.863E-02	2.641E-01	3.251E-03	1.372E-02
1.700E+00	2.599E-01	1.527E+00	5.415E-02	3.182E-01	3.876E-03	1.760E-02
1.800E+00	2.863E-01	1.814E+00	5.964E-02	3.779E-01	4.549E-03	2.215E-02
1.900E+00	3.125E-01	2.126E+00	6.510E-02	4.430E-01	5.266E-03	2.741E-02
2.000E+00	3.432E-01	2.458E+00	7.061E-02	5.105E-01	6.021E-03	3.260E-02
2.100E+00	3.746E-01	2.801E+00	7.612E-02	5.775E-01	6.775E-03	3.791E-02
2.200E+00	4.066E-01	3.154E+00	8.163E-02	6.431E-01	7.525E-03	4.322E-02
2.300E+00	4.393E-01	3.513E+00	8.714E-02	7.075E-01	8.275E-03	4.853E-02
2.400E+00	4.727E-01	3.879E+00	9.265E-02	7.725E-01	9.025E-03	5.384E-02
2.500E+00	5.066E-01	4.248E+00	9.816E-02	8.375E-01	9.775E-03	5.915E-02
2.600E+00	5.411E-01	4.621E+00	1.036E-01	9.025E-01	1.052E-02	6.446E-02
2.700E+00	5.762E-01	4.996E+00	1.091E-01	9.675E-01	1.127E-02	6.977E-02
2.800E+00	6.119E-01	5.371E+00	1.146E-01	1.032E-01	1.202E-02	7.508E-02
2.900E+00	6.482E-01	5.747E+00	1.201E-01	1.097E-01	1.277E-02	8.039E-02
3.000E+00	6.851E-01	6.122E+00	1.256E-01	1.162E-01	1.352E-02	8.570E-02
3.100E+00	7.226E-01	6.496E+00	1.311E-01	1.227E-01	1.427E-02	9.101E-02
3.200E+00	7.607E-01	6.868E+00	1.366E-01	1.292E-01	1.502E-02	9.632E-02
3.300E+00	7.994E-01	7.238E+00	1.421E-01	1.357E-01	1.577E-02	1.016E-01
3.400E+00	8.387E-01	7.606E+00	1.476E-01	1.422E-01	1.652E-02	1.071E-01
3.500E+00	8.786E-01	7.970E+00	1.531E-01	1.487E-01	1.727E-02	1.126E-01
3.600E+00	9.191E-01	8.331E+00	1.586E-01	1.552E-01	1.802E-02	1.181E-01
3.700E+00	9.602E-01	8.688E+00	1.641E-01	1.617E-01	1.877E-02	1.236E-01
3.800E+00	1.001E-01	9.041E+00	1.696E-01	1.682E-01	1.952E-02	1.291E-01
3.900E+00	1.042E-01	9.391E+00	1.751E-01	1.747E-01	2.027E-02	1.346E-01
4.000E+00	1.083E-01	9.736E+00	1.806E-01	1.812E-01	2.102E-02	1.401E-01
4.100E+00	1.125E-01	1.008E+01	1.861E-01	1.877E-01	2.177E-02	1.456E-01
4.200E+00	1.168E-01	1.041E+01	1.916E-01	1.942E-01	2.252E-02	1.511E-01
4.300E+00	1.212E-01	1.074E+01	1.971E-01	2.007E-01	2.327E-02	1.566E-01
4.400E+00	1.257E-01	1.107E+01	2.026E-01	2.072E-01	2.402E-02	1.621E-01
4.500E+00	1.303E-01	1.139E+01	2.081E-01	2.137E-01	2.477E-02	1.676E-01
4.600E+00	1.350E-01	1.171E+01	2.136E-01	2.202E-01	2.552E-02	1.731E-01
4.700E+00	1.398E-01	1.202E+01	2.191E-01	2.267E-01	2.627E-02	1.786E-01
4.800E+00	1.447E-01	1.233E+01	2.246E-01	2.332E-01	2.702E-02	1.841E-01
4.900E+00	1.497E-01	1.263E+01	2.301E-01	2.397E-01	2.777E-02	1.896E-01
5.000E+00	1.548E-01	1.293E+01	2.356E-01	2.462E-01	2.852E-02	1.951E-01
5.100E+00	1.599E-01	1.323E+01	2.411E-01	2.527E-01	2.927E-02	2.006E-01
5.200E+00	1.651E-01	1.352E+01	2.466E-01	2.592E-01	3.002E-02	2.061E-01
5.300E+00	1.704E-01	1.380E+01	2.521E-01	2.657E-01	3.077E-02	2.116E-01
5.400E+00	1.758E-01	1.408E+01	2.576E-01	2.722E-01	3.152E-02	2.171E-01
5.500E+00	1.813E-01	1.436E+01	2.631E-01	2.787E-01	3.227E-02	2.226E-01

5.600E+00	2.708E-01	1.463E+01	2.708E-02	1.693E+00	9.947E-03	3.664E-01
5.700E+00	2.663E-01	1.489E+01	2.663E-02	1.720E+00	9.881E-03	3.762E-01
5.800E+00	2.619E-01	1.515E+01	2.619E-02	1.746E+00	9.811E-03	3.861E-01
5.900E+00	2.576E-01	1.541E+01	2.576E-02	1.772E+00	9.738E-03	3.958E-01
6.000E+00	2.351E+00	1.776E+01	2.351E-01	2.007E+00	9.223E-02	4.880E-01
7.000E+00	1.989E+00	1.975E+01	1.989E-01	2.206E+00	8.320E-02	5.712E-01
8.000E+00	5.881E-01	2.034E+01	4.411E-02	2.250E+00	2.449E-02	5.957E-01
8.330E+00	4.888E+00	2.523E+01	3.666E-01	2.616E+00	1.521E-01	7.478E-01
1.200E+01	5.206E+00	3.044E+01	3.905E-01	3.007E+00	1.243E-01	8.721E-01
1.940E+01	2.026E+00	3.246E+01	1.519E-01	3.159E+00	5.090E-02	9.230E-01
2.400E+01	7.007E+00	3.947E+01	2.336E-01	3.392E+00	6.192E-02	9.850E-01
7.200E+01	2.338E+00	4.181E+01	7.794E-02	3.470E+00	2.124E-02	1.006E+00
9.600E+01	1.473E+01	5.654E+01	1.719E-01	3.642E+00	7.255E-02	1.079E+00
	TOTAL	5.654E+01	TOTAL	3.642E+00	TOTAL	1.079E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR THYROID DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	2.837E-04	2.837E-04	5.911E-05	5.911E-05	1.405E-05	1.405E-05
1.667E-02	1.187E-05	2.956E-04	2.473E-06	6.158E-05	1.378E-04	1.518E-04
1.000E-01	1.722E-04	4.678E-04	3.588E-05	9.746E-05	1.638E-04	3.156E-04
2.000E-01	7.082E-04	1.176E-03	1.475E-04	2.450E-04	1.833E-04	4.989E-04
3.000E-01	1.702E-02	1.819E-02	3.545E-03	3.790E-03	7.043E-04	1.203E-03
4.000E-01	5.256E-02	7.075E-02	1.095E-02	1.474E-02	2.702E-03	3.905E-03
5.000E-01	9.470E-02	1.655E-01	1.973E-02	3.447E-02	6.751E-03	1.066E-02
6.000E-01	1.487E-01	3.141E-01	3.097E-02	6.544E-02	1.314E-02	2.379E-02
7.000E-01	2.144E-01	5.286E-01	4.468E-02	1.101E-01	2.225E-02	4.605E-02
8.000E-01	2.905E-01	8.190E-01	6.052E-02	1.706E-01	3.441E-02	8.045E-02
9.000E-01	3.753E-01	1.194E+00	7.819E-02	2.488E-01	4.977E-02	1.302E-01
1.000E+00	4.675E-01	1.662E+00	9.740E-02	3.462E-01	6.839E-02	1.986E-01
1.100E+00	5.657E-01	2.228E+00	1.179E-01	4.641E-01	9.026E-02	2.889E-01
1.200E+00	6.688E-01	2.896E+00	1.393E-01	6.034E-01	1.153E-01	4.041E-01
1.300E+00	7.757E-01	3.672E+00	1.616E-01	7.650E-01	1.433E-01	5.474E-01
1.400E+00	8.854E-01	4.558E+00	1.845E-01	9.495E-01	1.741E-01	7.215E-01
1.500E+00	9.972E-01	5.555E+00	2.077E-01	1.157E+00	2.075E-01	9.289E-01
1.600E+00	1.110E+00	6.665E+00	2.313E-01	1.388E+00	2.432E-01	1.172E+00
1.700E+00	1.223E+00	7.888E+00	2.549E-01	1.643E+00	2.810E-01	1.453E+00
1.800E+00	1.337E+00	9.225E+00	2.785E-01	1.922E+00	3.206E-01	1.774E+00
1.900E+00	1.450E+00	1.067E+01	3.020E-01	2.224E+00	3.619E-01	2.136E+00
2.000E+00	4.215E-03	1.068E+01	4.215E-04	2.224E+00	1.070E-03	2.137E+00
2.000E+00	1.524E+00	1.220E+01	1.524E-01	2.377E+00	3.849E-01	2.522E+00
2.100E+00	1.555E+00	1.376E+01	1.555E-01	2.532E+00	3.932E-01	2.915E+00
2.200E+00	1.557E+00	1.531E+01	1.557E-01	2.688E+00	4.001E-01	3.315E+00
2.300E+00	1.540E+00	1.685E+01	1.540E-01	2.842E+00	4.058E-01	3.721E+00
2.400E+00	1.511E+00	1.836E+01	1.511E-01	2.993E+00	4.100E-01	4.131E+00
2.500E+00	1.471E+00	1.984E+01	1.471E-01	3.140E+00	4.123E-01	4.543E+00
2.600E+00	1.426E+00	2.126E+01	1.426E-01	3.283E+00	4.129E-01	4.956E+00
2.700E+00	1.376E+00	2.264E+01	1.376E-01	3.420E+00	4.116E-01	5.367E+00
2.800E+00	1.323E+00	2.396E+01	1.323E-01	3.552E+00	4.086E-01	5.776E+00
2.900E+00	1.268E+00	2.523E+01	1.268E-01	3.679E+00	4.041E-01	6.180E+00
3.000E+00	1.212E+00	2.644E+01	1.212E-01	3.800E+00	3.981E-01	6.578E+00
3.100E+00	1.157E+00	2.760E+01	1.157E-01	3.916E+00	3.909E-01	6.969E+00
3.200E+00	1.102E+00	2.870E+01	1.102E-01	4.026E+00	3.826E-01	7.352E+00
3.300E+00	1.049E+00	2.975E+01	1.049E-01	4.131E+00	3.735E-01	7.725E+00
3.400E+00	9.958E-01	3.074E+01	9.958E-02	4.231E+00	3.635E-01	8.089E+00
3.500E+00	9.444E-01	3.169E+01	9.444E-02	4.325E+00	3.530E-01	8.442E+00
3.600E+00	8.946E-01	3.258E+01	8.946E-02	4.415E+00	3.420E-01	8.784E+00
3.700E+00	8.463E-01	3.343E+01	8.463E-02	4.499E+00	3.306E-01	9.114E+00
3.800E+00	7.998E-01	3.423E+01	7.998E-02	4.579E+00	3.190E-01	9.433E+00
3.900E+00	7.551E-01	3.498E+01	7.551E-02	4.655E+00	3.072E-01	9.741E+00
4.000E+00	7.122E-01	3.570E+01	7.122E-02	4.726E+00	2.953E-01	1.004E+01
4.100E+00	6.711E-01	3.637E+01	6.711E-02	4.793E+00	2.834E-01	1.032E+01
4.200E+00	6.319E-01	3.700E+01	6.319E-02	4.856E+00	2.717E-01	1.059E+01
4.300E+00	5.945E-01	3.759E+01	5.945E-02	4.916E+00	2.600E-01	1.085E+01
4.400E+00	5.589E-01	3.815E+01	5.589E-02	4.972E+00	2.485E-01	1.110E+01
4.500E+00	5.251E-01	3.868E+01	5.251E-02	5.024E+00	2.372E-01	1.134E+01
4.600E+00	4.930E-01	3.917E+01	4.930E-02	5.074E+00	2.262E-01	1.156E+01
4.700E+00	4.627E-01	3.963E+01	4.627E-02	5.120E+00	2.155E-01	1.178E+01
4.800E+00	4.339E-01	4.007E+01	4.339E-02	5.163E+00	2.051E-01	1.198E+01
4.900E+00	4.067E-01	4.047E+01	4.067E-02	5.204E+00	1.949E-01	1.218E+01
5.000E+00	3.811E-01	4.086E+01	3.811E-02	5.242E+00	1.852E-01	1.236E+01
5.100E+00	3.571E-01	4.121E+01	3.571E-02	5.278E+00	1.757E-01	1.254E+01
5.200E+00	3.346E-01	4.155E+01	3.346E-02	5.311E+00	1.667E-01	1.271E+01
5.300E+00	3.136E-01	4.186E+01	3.136E-02	5.343E+00	1.580E-01	1.286E+01
5.400E+00	2.939E-01	4.215E+01	2.939E-02	5.372E+00	1.497E-01	1.301E+01
5.500E+00	2.755E-01	4.243E+01	2.755E-02	5.399E+00	1.417E-01	1.316E+01

5.600E+00	2.583E-01	4.269E+01	2.583E-02	5.425E+00	1.341E-01	1.329E+01
5.700E+00	2.422E-01	4.293E+01	2.422E-02	5.450E+00	1.269E-01	1.342E+01
5.800E+00	2.271E-01	4.316E+01	2.271E-02	5.472E+00	1.201E-01	1.354E+01
5.900E+00	2.130E-01	4.337E+01	2.130E-02	5.494E+00	1.135E-01	1.365E+01
6.000E+00	1.527E+00	4.490E+01	1.527E-01	5.646E+00	8.270E-01	1.448E+01
7.000E+00	8.188E-01	4.572E+01	8.188E-02	5.728E+00	4.851E-01	1.496E+01
8.000E+00	1.788E-01	4.590E+01	6.896E-03	5.735E+00	1.087E-01	1.507E+01
8.330E+00	8.191E-01	4.671E+01	3.159E-02	5.767E+00	3.731E-01	1.544E+01
1.200E+01	4.678E-01	4.718E+01	1.805E-02	5.785E+00	1.970E-01	1.564E+01
1.940E+01	2.344E-01	4.742E+01	9.040E-03	5.794E+00	9.875E-02	1.574E+01
2.400E+01	1.231E+00	4.865E+01	2.697E-02	5.821E+00	1.946E-01	1.593E+01
7.200E+01	4.908E-01	4.914E+01	1.075E-02	5.831E+00	7.814E-02	1.601E+01
9.600E+01	4.309E+00	5.345E+01	3.304E-02	5.864E+00	3.719E-01	1.638E+01
	TOTAL	5.345E+01	TOTAL	5.864E+00	TOTAL	1.638E+01

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR INHALATN DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	1.249E-05	1.249E-05	2.601E-06	2.601E-06	6.184E-07	6.184E-07
1.667E-02	5.224E-07	1.301E-05	1.088E-07	2.710E-06	6.062E-06	6.680E-06
1.000E-01	7.579E-06	2.059E-05	1.579E-06	4.289E-06	7.203E-06	1.388E-05
2.000E-01	3.117E-05	5.176E-05	6.495E-06	1.078E-05	8.062E-06	2.195E-05
3.000E-01	7.491E-04	8.009E-04	1.561E-04	1.668E-04	3.098E-05	5.293E-05
4.000E-01	2.314E-03	3.115E-03	4.821E-04	6.489E-04	1.188E-04	1.718E-04
5.000E-01	4.230E-03	7.345E-03	8.813E-04	1.530E-03	2.987E-04	4.704E-04
6.000E-01	6.956E-03	1.430E-02	1.449E-03	2.979E-03	5.932E-04	1.064E-03
7.000E-01	1.052E-02	2.482E-02	2.192E-03	5.171E-03	1.036E-03	2.100E-03
8.000E-01	1.482E-02	3.964E-02	3.088E-03	8.259E-03	1.655E-03	3.755E-03
9.000E-01	1.976E-02	5.940E-02	4.117E-03	1.238E-02	2.468E-03	6.223E-03
1.000E+00	2.524E-02	8.464E-02	5.259E-03	1.763E-02	3.483E-03	9.706E-03
1.100E+00	3.118E-02	1.158E-01	6.495E-03	2.413E-02	4.704E-03	1.441E-02
1.200E+00	3.749E-02	1.533E-01	7.810E-03	3.194E-02	6.129E-03	2.054E-02
1.300E+00	4.410E-02	1.974E-01	9.187E-03	4.113E-02	7.751E-03	2.829E-02
1.400E+00	5.095E-02	2.484E-01	1.061E-02	5.174E-02	9.559E-03	3.785E-02
1.500E+00	5.798E-02	3.063E-01	1.208E-02	6.382E-02	1.154E-02	4.939E-02
1.600E+00	6.513E-02	3.715E-01	1.357E-02	7.739E-02	1.369E-02	6.308E-02
1.700E+00	7.235E-02	4.438E-01	1.507E-02	9.246E-02	1.598E-02	7.905E-02
1.800E+00	7.961E-02	5.234E-01	1.659E-02	1.090E-01	1.840E-02	9.745E-02
1.900E+00	8.687E-02	6.103E-01	1.810E-02	1.271E-01	2.093E-02	1.184E-01
2.000E+00	2.533E-04	6.106E-01	2.533E-05	1.272E-01	6.212E-05	1.184E-01
2.000E+00	9.176E-02	7.023E-01	9.176E-03	1.363E-01	2.239E-02	1.408E-01
2.100E+00	9.392E-02	7.962E-01	9.392E-03	1.457E-01	2.296E-02	1.638E-01
2.200E+00	9.430E-02	8.905E-01	9.430E-03	1.552E-01	2.345E-02	1.872E-01
2.300E+00	9.352E-02	9.841E-01	9.352E-03	1.645E-01	2.386E-02	2.111E-01
2.400E+00	9.189E-02	1.076E+00	9.189E-03	1.737E-01	2.418E-02	2.353E-01
2.500E+00	8.966E-02	1.166E+00	8.966E-03	1.827E-01	2.438E-02	2.597E-01
2.600E+00	8.701E-02	1.253E+00	8.701E-03	1.914E-01	2.447E-02	2.841E-01
2.700E+00	8.407E-02	1.337E+00	8.407E-03	1.998E-01	2.445E-02	3.086E-01
2.800E+00	8.093E-02	1.418E+00	8.093E-03	2.079E-01	2.431E-02	3.329E-01
2.900E+00	7.767E-02	1.495E+00	7.767E-03	2.156E-01	2.408E-02	3.570E-01
3.000E+00	7.435E-02	1.570E+00	7.435E-03	2.231E-01	2.376E-02	3.807E-01
3.100E+00	7.103E-02	1.641E+00	7.103E-03	2.302E-01	2.336E-02	4.041E-01
3.200E+00	6.774E-02	1.708E+00	6.774E-03	2.370E-01	2.288E-02	4.270E-01
3.300E+00	6.449E-02	1.773E+00	6.449E-03	2.434E-01	2.235E-02	4.493E-01
3.400E+00	6.130E-02	1.834E+00	6.130E-03	2.495E-01	2.178E-02	4.711E-01
3.500E+00	5.819E-02	1.892E+00	5.819E-03	2.554E-01	2.116E-02	4.923E-01
3.600E+00	5.516E-02	1.948E+00	5.516E-03	2.609E-01	2.051E-02	5.128E-01
3.700E+00	5.223E-02	2.000E+00	5.223E-03	2.661E-01	1.983E-02	5.326E-01
3.800E+00	4.939E-02	2.049E+00	4.939E-03	2.710E-01	1.914E-02	5.517E-01
3.900E+00	4.666E-02	2.096E+00	4.666E-03	2.757E-01	1.844E-02	5.702E-01
4.000E+00	4.404E-02	2.140E+00	4.404E-03	2.801E-01	1.773E-02	5.879E-01
4.100E+00	4.153E-02	2.181E+00	4.153E-03	2.843E-01	1.702E-02	6.049E-01
4.200E+00	3.913E-02	2.221E+00	3.913E-03	2.882E-01	1.631E-02	6.212E-01
4.300E+00	3.683E-02	2.257E+00	3.683E-03	2.919E-01	1.561E-02	6.368E-01
4.400E+00	3.465E-02	2.292E+00	3.465E-03	2.953E-01	1.491E-02	6.518E-01
4.500E+00	3.257E-02	2.325E+00	3.257E-03	2.986E-01	1.423E-02	6.660E-01
4.600E+00	3.059E-02	2.355E+00	3.059E-03	3.016E-01	1.357E-02	6.795E-01
4.700E+00	2.872E-02	2.384E+00	2.872E-03	3.045E-01	1.292E-02	6.925E-01
4.800E+00	2.694E-02	2.411E+00	2.694E-03	3.072E-01	1.228E-02	7.047E-01
4.900E+00	2.526E-02	2.436E+00	2.526E-03	3.097E-01	1.167E-02	7.164E-01
5.000E+00	2.368E-02	2.460E+00	2.368E-03	3.121E-01	1.108E-02	7.275E-01
5.100E+00	2.219E-02	2.482E+00	2.219E-03	3.143E-01	1.050E-02	7.380E-01
5.200E+00	2.080E-02	2.503E+00	2.080E-03	3.164E-01	9.954E-03	7.480E-01
5.300E+00	1.950E-02	2.522E+00	1.950E-03	3.183E-01	9.426E-03	7.574E-01
5.400E+00	1.828E-02	2.541E+00	1.828E-03	3.202E-01	8.920E-03	7.663E-01
5.500E+00	1.714E-02	2.558E+00	1.714E-03	3.219E-01	8.437E-03	7.747E-01

5.600E+00	1.607E-02	2.574E+00	1.607E-03	3.235E-01	7.976E-03	7.827E-01
5.700E+00	1.507E-02	2.589E+00	1.507E-03	3.250E-01	7.536E-03	7.903E-01
5.800E+00	1.413E-02	2.603E+00	1.413E-03	3.264E-01	7.119E-03	7.974E-01
5.900E+00	1.325E-02	2.616E+00	1.325E-03	3.277E-01	6.722E-03	8.041E-01
6.000E+00	9.488E-02	2.711E+00	9.488E-03	3.372E-01	4.844E-02	8.525E-01
7.000E+00	5.050E-02	2.762E+00	5.050E-03	3.423E-01	2.773E-02	8.803E-01
8.000E+00	1.089E-02	2.772E+00	4.200E-04	3.427E-01	6.052E-03	8.863E-01
8.330E+00	4.638E-02	2.819E+00	1.789E-03	3.445E-01	1.802E-02	9.043E-01
1.200E+01	1.707E-02	2.836E+00	6.583E-04	3.451E-01	6.623E-03	9.110E-01
1.940E+01	7.261E-03	2.843E+00	2.801E-04	3.454E-01	3.072E-03	9.140E-01
2.400E+01	3.774E-02	2.881E+00	8.266E-04	3.462E-01	5.959E-03	9.200E-01
7.200E+01	1.498E-02	2.896E+00	3.282E-04	3.466E-01	2.384E-03	9.224E-01
9.600E+01	1.314E-01	3.027E+00	1.008E-03	3.476E-01	1.132E-02	9.337E-01
	TOTAL	3.027E+00	TOTAL	3.476E-01	TOTAL	9.337E-01

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR TEDE DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	1.461E-05	1.461E-05	3.043E-06	3.043E-06	6.244E-07	6.244E-07
1.667E-02	1.579E-06	1.619E-05	3.290E-07	3.372E-06	6.120E-06	6.745E-06
1.000E-01	2.287E-05	3.905E-05	4.764E-06	8.136E-06	7.296E-06	1.404E-05
2.000E-01	9.384E-05	1.329E-04	1.955E-05	2.769E-05	8.284E-06	2.232E-05
3.000E-01	2.351E-03	2.484E-03	4.897E-04	5.174E-04	3.412E-05	5.645E-05
4.000E-01	7.269E-03	9.753E-03	1.514E-03	2.032E-03	1.332E-04	1.897E-04
5.000E-01	1.369E-02	2.344E-02	2.852E-03	4.884E-03	3.372E-04	5.269E-04
6.000E-01	2.456E-02	4.801E-02	5.117E-03	1.000E-02	6.761E-04	1.203E-03
7.000E-01	4.012E-02	8.812E-02	8.357E-03	1.836E-02	1.195E-03	2.398E-03
8.000E-01	5.977E-02	1.479E-01	1.245E-02	3.081E-02	1.933E-03	4.331E-03
9.000E-01	8.298E-02	2.309E-01	1.729E-02	4.810E-02	2.913E-03	7.244E-03
1.000E+00	1.092E-01	3.400E-01	2.274E-02	7.084E-02	4.152E-03	1.140E-02
1.100E+00	1.375E-01	4.775E-01	2.865E-02	9.949E-02	5.656E-03	1.705E-02
1.200E+00	1.675E-01	6.451E-01	3.490E-02	1.344E-01	7.424E-03	2.448E-02
1.300E+00	1.990E-01	8.440E-01	4.145E-02	1.758E-01	9.448E-03	3.392E-02
1.400E+00	2.315E-01	1.076E+00	4.824E-02	2.241E-01	1.172E-02	4.564E-02
1.500E+00	2.649E-01	1.340E+00	5.519E-02	2.793E-01	1.422E-02	5.986E-02
1.600E+00	2.986E-01	1.639E+00	6.220E-02	3.415E-01	1.694E-02	7.680E-02
1.700E+00	3.323E-01	1.971E+00	6.922E-02	4.107E-01	1.985E-02	9.665E-02
1.800E+00	3.659E-01	2.337E+00	7.623E-02	4.869E-01	2.294E-02	1.196E-01
1.900E+00	3.993E-01	2.737E+00	8.320E-02	5.701E-01	2.619E-02	1.458E-01
2.000E+00	1.164E-03	2.738E+00	1.164E-04	5.702E-01	7.788E-05	1.459E-01
2.000E+00	4.228E-01	3.160E+00	4.228E-02	6.125E-01	2.816E-02	1.740E-01
2.100E+00	4.371E-01	3.598E+00	4.371E-02	6.562E-01	2.907E-02	2.031E-01
2.200E+00	4.466E-01	4.044E+00	4.466E-02	7.009E-01	2.988E-02	2.330E-01
2.300E+00	4.532E-01	4.497E+00	4.532E-02	7.462E-01	3.061E-02	2.636E-01
2.400E+00	4.572E-01	4.955E+00	4.572E-02	7.919E-01	3.124E-02	2.948E-01
2.500E+00	4.593E-01	5.414E+00	4.593E-02	8.378E-01	3.174E-02	3.266E-01
2.600E+00	4.597E-01	5.874E+00	4.597E-02	8.838E-01	3.212E-02	3.587E-01
2.700E+00	4.587E-01	6.332E+00	4.587E-02	9.297E-01	3.237E-02	3.911E-01
2.800E+00	4.566E-01	6.789E+00	4.566E-02	9.753E-01	3.250E-02	4.235E-01
2.900E+00	4.535E-01	7.242E+00	4.535E-02	1.021E+00	3.251E-02	4.561E-01
3.000E+00	4.496E-01	7.692E+00	4.496E-02	1.066E+00	3.241E-02	4.885E-01
3.100E+00	4.450E-01	8.137E+00	4.450E-02	1.110E+00	3.223E-02	5.207E-01
3.200E+00	4.400E-01	8.577E+00	4.400E-02	1.154E+00	3.195E-02	5.526E-01
3.300E+00	4.345E-01	9.011E+00	4.345E-02	1.198E+00	3.160E-02	5.842E-01
3.400E+00	4.286E-01	9.440E+00	4.286E-02	1.240E+00	3.119E-02	6.154E-01
3.500E+00	4.224E-01	9.862E+00	4.224E-02	1.283E+00	3.072E-02	6.462E-01
3.600E+00	4.160E-01	1.028E+01	4.160E-02	1.324E+00	3.020E-02	6.764E-01
3.700E+00	4.094E-01	1.069E+01	4.094E-02	1.365E+00	2.964E-02	7.060E-01
3.800E+00	4.027E-01	1.109E+01	4.027E-02	1.406E+00	2.906E-02	7.351E-01
3.900E+00	3.959E-01	1.149E+01	3.959E-02	1.445E+00	2.844E-02	7.635E-01
4.000E+00	3.891E-01	1.188E+01	3.891E-02	1.484E+00	2.781E-02	7.913E-01
4.100E+00	3.822E-01	1.226E+01	3.822E-02	1.522E+00	2.716E-02	8.185E-01
4.200E+00	3.753E-01	1.263E+01	3.753E-02	1.560E+00	2.650E-02	8.450E-01
4.300E+00	3.684E-01	1.300E+01	3.684E-02	1.597E+00	2.584E-02	8.708E-01
4.400E+00	3.616E-01	1.336E+01	3.616E-02	1.633E+00	2.518E-02	8.960E-01
4.500E+00	3.548E-01	1.372E+01	3.548E-02	1.668E+00	2.451E-02	9.205E-01
4.600E+00	3.481E-01	1.407E+01	3.481E-02	1.703E+00	2.385E-02	9.444E-01
4.700E+00	3.415E-01	1.441E+01	3.415E-02	1.737E+00	2.320E-02	9.676E-01
4.800E+00	3.350E-01	1.474E+01	3.350E-02	1.771E+00	2.256E-02	9.901E-01
4.900E+00	3.285E-01	1.507E+01	3.285E-02	1.804E+00	2.193E-02	1.012E+00
5.000E+00	3.222E-01	1.539E+01	3.222E-02	1.836E+00	2.131E-02	1.033E+00
5.100E+00	3.160E-01	1.571E+01	3.160E-02	1.867E+00	2.071E-02	1.054E+00
5.200E+00	3.099E-01	1.602E+01	3.099E-02	1.898E+00	2.012E-02	1.074E+00
5.300E+00	3.040E-01	1.632E+01	3.040E-02	1.929E+00	1.954E-02	1.094E+00
5.400E+00	2.982E-01	1.662E+01	2.982E-02	1.959E+00	1.898E-02	1.113E+00
5.500E+00	2.925E-01	1.691E+01	2.925E-02	1.988E+00	1.845E-02	1.131E+00

5.600E+00	2.869E-01	1.720E+01	2.869E-02	2.017E+00	1.792E-02	1.149E+00
5.700E+00	2.814E-01	1.748E+01	2.814E-02	2.045E+00	1.742E-02	1.166E+00
5.800E+00	2.761E-01	1.776E+01	2.761E-02	2.072E+00	1.693E-02	1.183E+00
5.900E+00	2.709E-01	1.803E+01	2.709E-02	2.099E+00	1.646E-02	1.200E+00
6.000E+00	2.446E+00	2.048E+01	2.446E-01	2.344E+00	1.407E-01	1.341E+00
7.000E+00	2.040E+00	2.252E+01	2.040E-01	2.548E+00	1.109E-01	1.451E+00
8.000E+00	5.990E-01	2.311E+01	4.453E-02	2.592E+00	3.055E-02	1.482E+00
8.330E+00	4.934E+00	2.805E+01	3.684E-01	2.961E+00	1.701E-01	1.652E+00
1.200E+01	5.223E+00	3.327E+01	3.911E-01	3.352E+00	1.309E-01	1.783E+00
1.940E+01	2.033E+00	3.530E+01	1.522E-01	3.504E+00	5.397E-02	1.837E+00
2.400E+01	7.045E+00	4.235E+01	2.344E-01	3.739E+00	6.788E-02	1.905E+00
7.200E+01	2.353E+00	4.470E+01	7.827E-02	3.817E+00	2.363E-02	1.929E+00
9.600E+01	1.487E+01	5.957E+01	1.729E-01	3.990E+00	8.387E-02	2.012E+00
	TOTAL	5.957E+01	TOTAL	3.990E+00	TOTAL	2.012E+00

1 NO MORE CASES

END OF EXECUTION

## CONTAINMENT LEAKAGE RAPTOR RUN (CASE 1)

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR  RR  AA  AA  AA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AAA  AAA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  PP  TT  OO  OO  RR  RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT  OO  2.10B  OO  RRRRRRRR
RRRRRRR      AAAAAAAAAA      PPPPPP      TT  OO  OO  RRRRRR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OOOOOOO  RR  RR
RR  RR  AA  AA  PP  TT  OOO  RR  RR
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IIIIIIIIII NN      NN PPPPPP      UU      UU TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPPP      UU      UU TTTTTTTTTT
II      NNNN      NN PP  PP  UU      UU  TT
II      NN NN      NN PP  PP  UU      UU  TT
II      NN NN      NN PP  PP  UU      UU  TT
II      NN NN      NN PPPPPPPP      UU      UU  TT
II      NN NN      NN PPPPPP      UU      UU  TT
II      NN NN NN PP      UU      UU  TT
II      NN NN NN PP      UUU      UUU  TT
IIIIIIIIII NN      NNN PP      UUUUUUUU      TT
IIIIIIIIII NN      NN PP      UU      TT
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Execution Time: 01:55:55 on 10/15/00

### MODELED NUCLIDE PARAMETERS

Isotope	Group	Half-Life	Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Co-58	Noble Mtls	7.0800E+001 Dys	1.7612E-001	3.2264E+003	1.0878E+004
Co-60	Noble Mtls	5.2696E+000 Yrs	4.6620E-001	5.9940E+004	2.1867E+005
Br-82	Halogens	1.4710E+000 Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000 Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001 Min	3.4817E-001	5.2910E+000	8.3990E+001
Kr-85	Noble Gas	1.0730E+001 Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000 Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000 Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000 Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001 Dys	1.7797E-002	4.9210E+003	6.6230E+003
Sr-89	Stront/Bar	5.0520E+001 Dys	2.8601E-004	2.9452E+001	4.1440E+004
Sr-90	Stront/Bar	2.9100E+001 Yrs	2.7861E-005	9.9530E+002	1.2987E+006
Sr-91	Stront/Bar	9.5000E+000 Hrs	1.8219E-001	3.6741E+001	1.6824E+003
Sr-92	Stront/Bar	2.7100E+000 Hrs	2.5123E-001	1.4504E+001	8.0660E+002
Y-90	Lanthanum	2.6700E+000 Dys	7.0300E-004	1.9129E+000	8.4360E+003
Y-91	Lanthanum	5.8500E+001 Dys	9.6200E-004	3.1450E+001	4.8840E+004
Y-92	Lanthanum	3.5400E+000 Hrs	4.8100E-002	3.8850E+000	7.8070E+002
Y-93	Lanthanum	1.0200E+001 Hrs	1.7760E-002	3.4262E+000	2.1534E+003
Zr-95	Lanthanum	6.4020E+001 Dys	1.3320E-001	5.3280E+003	2.3643E+004
Zr-97	Lanthanum	1.6800E+001 Hrs	1.6398E-001	8.5655E+001	4.3327E+003
Nb-95	Lanthanum	3.4970E+001 Dys	1.3838E-001	1.3246E+003	5.8090E+003
Mo-99	Noble Mtls	2.7476E+000 Dys	2.6936E-002	5.6240E+001	3.9590E+003
Tc-99m	Noble Mtls	6.0100E+000 Hrs	2.1793E-002	1.8537E+002	3.2560E+001
Ru-103	Noble Mtls	3.9270E+001 Dys	8.3287E-002	9.5090E+002	8.9577E+003
Ru-105	Noble Mtls	4.4400E+000 Hrs	1.4097E-001	1.5355E+001	4.5510E+002
Ru-106	Noble Mtls	1.0200E+000 Yrs	3.8480E-002	6.3640E+003	4.7730E+005
Rh-105	Noble Mtls	3.5400E+001 Hrs	1.3764E-002	1.0656E+001	9.5460E+002
Sb-125	Tellurium	2.7580E+000 Yrs	7.4740E-002	1.1988E+003	1.2210E+004
Sb-127	Tellurium	3.8400E+000 Dys	1.2321E-001	2.2755E+002	6.0310E+003
Sb-129	Tellurium	4.4000E+000 Hrs	2.6418E-001	3.5964E+001	6.4380E+002
Te-127	Tellurium	9.4000E+000 Hrs	8.9540E-004	6.8080E+000	3.1820E+002
Te-127m	Tellurium	1.0900E+002 Dys	5.4390E-004	3.5742E+002	2.1497E+004
Te-129	Tellurium	1.1600E+000 Hrs	1.0175E-002	1.8834E+000	7.7330E+001
Te-129m	Tellurium	3.3600E+001 Dys	4.5826E+000	1.4244E+003	5.8724E+004
Te-131m	Tellurium	1.3500E+000 Dys	1.5619E+000	4.8335E+005	1.9773E+004
Te-132	Tellurium	3.2600E+000 Dys	1.4251E+001	4.5317E+005	2.2506E+004
Te-133m	Tellurium	5.5400E+001 Min	5.2469E-001	1.8973E+004	7.1746E+005
Te-134	Tellurium	4.2000E+001 Min	5.4168E-001	2.9097E+003	2.2459E+002
I-131	Halogens	8.0400E+000 Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000 Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001 Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001 Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000 Hrs	3.0688E-001	3.1302E+004	1.2284E+003
Xe-133	Noble Gas	5.2430E+000 Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000 Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Cs-134	Cesiums	2.0650E+000 Yrs	2.8009E-001	4.1070E+004	4.6250E+004
Cs-136	Cesiums	1.3160E+001 Dys	3.9220E-001	6.4010E+003	7.3260E+003
Cs-137	Cesiums	3.0170E+001 Yrs	1.0082E-001	2.9341E+004	3.1931E+004
Cs-138	Cesiums	3.2200E+001 Min	4.4770E-001	1.3209E+001	1.0138E+002
Ba-139	Stront/Bar	1.3960E+000 Hrs	8.0290E-003	8.8800E+000	1.7168E+002
Ba-140	Stront/Bar	1.2750E+001 Dys	3.1746E-002	9.4720E+002	3.7370E+003
La-140	Lanthanum	1.6780E+000 Dys	4.3290E-001	2.5419E+002	4.8470E+003
La-141	Lanthanum	3.9000E+000 Hrs	8.8430E-003	3.4780E+001	5.8090E+002
La-142	Lanthanum	1.5400E+000 Hrs	5.3280E-001	3.2338E+001	2.5308E+002
Ce-141	Cerium	3.2500E+001 Dys	1.2691E-002	9.4350E+001	8.9540E+003
Ce-143	Cerium	1.3800E+000 Dys	4.7730E-002	2.3051E+001	3.3892E+003
Ce-144	Cerium	2.8460E+002 Dys	1.0260E-002	1.0804E+003	3.7370E+005
Pr-143	Lanthanum	1.3570E+001 Dys	7.7700E-005	6.2160E-006	8.1030E+003
Nd-147	Lanthanum	1.0980E+001 Dys	2.2903E-002	6.7340E+001	6.8450E+003
Np-238	Cerium	2.1170E+000 Dys	1.0064E-001	9.0650E+001	3.7000E+004

Np-239	Cerium	2.3550E+000	Dys	2.8453E-002	2.8194E+001	2.5086E+003
Pu-238	Cerium	8.7700E+001	Yrs	1.8056E-005	1.4282E+003	2.8823E+008
Pu-239	Cerium	2.4100E+004	Yrs	1.5688E-005	1.3875E+003	3.0821E+008
Pu-240	Cerium	6.5600E+003	Yrs	1.7575E-005	1.3912E+003	3.0821E+008
Pu-241	Cerium	1.4400E+001	Yrs	2.6825E-007	3.3855E+001	4.9580E+006
Am-241	Lanthanum	4.3270E+002	Yrs	3.0266E-003	5.9200E+003	4.4400E+008
Cm-242	Lanthanum	1.6280E+002	Dys	2.1053E-005	3.4817E+003	1.7279E+007
Cm-244	Lanthanum	1.8100E+001	Yrs	1.8167E-005	3.7370E+003	2.4790E+008

#### MODEL PARAMETERS

Core Power Level = 3910.00 MW  
Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

#### NODE PARAMETERS

Name	Volume (cu.ft.)	Inventory Tracked?
Drywell	2.7000E+005	Yes
Sprayed	8.4000E+005	Yes
Unsprayed	5.6000E+005	Yes
SecCont	3.0000E+005	Yes
MSIVVol	4.3370E+002	Yes
Turb_Bldg	1.0000E+000	Yes
ContolRoom	2.5300E+005	Yes
OutofCR	1.0000E+000	No

#### RELEASE POINTS

Name  
Encl\_Bldg\_Vent  
SGTS\_Vent

#### RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

#### INITIAL INVENTORIES

Co-58 In Core	at 1.5290E+002 Ci/MW			
Co-60 In Core	at 1.8300E+002 Ci/MW			
Br-82 In Core	at 1.9500E+002 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Br-83 In Core	at 3.5220E+003 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Br-84 In Core	at 6.1990E+003 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Kr-85 In Core	at 3.8800E+002 Ci/MW			
Kr-85m In Core	at 9.1100E+003 Ci/MW			
Kr-87 In Core	at 1.6570E+004 Ci/MW			
Kr-88 In Core	at 2.2360E+004 Ci/MW			
Rb-86 In Core	at 7.3760E+001 Ci/MW			
Sr-89 In Core	at 2.7950E+004 Ci/MW			
Sr-90 In Core	at 3.1510E+003 Ci/MW			
Sr-91 In Core	at 3.6040E+004 Ci/MW			
Sr-92 In Core	at 3.7650E+004 Ci/MW			
Y-90 In Core	at 3.2510E+003 Ci/MW			
Y-91 In Core	at 3.5600E+004 Ci/MW			
Y-92 In Core	at 3.7800E+004 Ci/MW			
Y-93 In Core	at 4.2980E+004 Ci/MW			
Zr-95 In Core	at 4.6600E+004 Ci/MW			
Zr-97 In Core	at 4.5870E+004 Ci/MW			
Nb-95 In Core	at 4.6750E+004 Ci/MW			
Mo-99 In Core	at 5.1380E+004 Ci/MW			
Tc-99m In Core	at 4.4990E+004 Ci/MW			
Ru-103 In Core	at 4.5190E+004 Ci/MW			
Ru-105 In Core	at 3.3040E+004 Ci/MW			
Ru-106 In Core	at 1.9680E+004 Ci/MW			
Rh-105 In Core	at 3.0870E+004 Ci/MW			
Sb-125 In Core	at 5.5550E+002 Ci/MW			
Sb-127 In Core	at 2.2340E+004 Ci/MW			
Sb-129 In Core	at 9.3090E+003 Ci/MW			
Te-127 In Core	at 3.2200E+003 Ci/MW			
Te-127m In Core	at 4.2970E+002 Ci/MW			
Te-129 In Core	at 9.1610E+003 Ci/MW			
Te-129m In Core	at 1.9900E+003 Ci/MW			
Te-131m In Core	at 4.0790E+003 Ci/MW			
Te-132 In Core	at 3.9080E+004 Ci/MW			
Te-133m In Core	at 2.0680E+004 Ci/MW			
Te-134 In Core	at 4.6880E+004 Ci/MW			
I-131 In Core	at 2.7570E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-132 In Core	at 3.9770E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-133 In Core	at 5.5140E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-134 In Core	at 6.0740E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-135 In Core	at 5.1530E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Xe-133 In Core	at 5.4250E+004 Ci/MW			
Xe-135 In Core	at 2.1540E+004 Ci/MW			
Cs-134 In Core	at 8.1940E+003 Ci/MW			
Cs-136 In Core	at 2.4040E+003 Ci/MW			
Cs-137 In Core	at 4.1970E+003 Ci/MW			
Cs-138 In Core	at 5.1020E+004 Ci/MW			
Ba-139 In Core	at 4.9940E+004 Ci/MW			
Ba-140 In Core	at 4.9270E+004 Ci/MW			
La-140 In Core	at 5.0690E+004 Ci/MW			
La-141 In Core	at 4.6420E+004 Ci/MW			
La-142 In Core	at 4.4660E+004 Ci/MW			

Ce-141 In Core	at 4.5680E+004 Ci/MW
Ce-143 In Core	at 4.3550E+004 Ci/MW
Ce-144 In Core	at 3.5750E+004 Ci/MW
Pr-143 In Core	at 4.2630E+004 Ci/MW
Nd-147 In Core	at 1.9050E+004 Ci/MW
Np-238 In Core	at 1.5800E+004 Ci/MW
Np-239 In Core	at 6.5700E+005 Ci/MW
Pu-238 In Core	at 1.8950E+002 Ci/MW
Pu-239 In Core	at 1.3660E+001 Ci/MW
Pu-240 In Core	at 2.0690E+001 Ci/MW
Pu-241 In Core	at 5.5500E+003 Ci/MW
Am-241 In Core	at 7.1300E+000 Ci/MW
Cm-242 In Core	at 2.1690E+003 Ci/MW
Cm-244 In Core	at 4.5780E+002 Ci/MW

#### RELEASE PARAMETERS

0.000E+000 Sec to 5.000E-001 Hrs : Noble Gas	Into Drywell	at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs : Halogens	Into Drywell	at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs : Cesiums	Into Drywell	at 5.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Noble Gas	Into Drywell	at 9.5000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Halogens	Into Drywell	at 2.5000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Cesiums	Into Drywell	at 2.0000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Tellurium	Into Drywell	at 5.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Stront/Bar	Into Drywell	at 2.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Noble Mtls	Into Drywell	at 2.5000E-001 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Lanthanum	Into Drywell	at 2.0000E-002 percent
5.000E-001 Hrs to 2.000E+000 Hrs : Cerium	Into Drywell	at 5.0000E-002 percent

#### FLOW PARAMETERS

Flow#1 from Drywell to Turb\_Bldg  
0.000E+000 Sec to 1.800E+001 Min at 1.7270E+000 cfm

Flow#2 from Drywell to MSIVVol  
0.000E+000 Sec to 1.000E+000 Dys at 1.3810E+000 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 8.8500E-001 percent per day

Flow#3 from Drywell to Unsprayed  
0.000E+000 Sec to 2.000E+000 Hrs at 1.6000E+003 percent per day  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#4 from Unsprayed to Drywell  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#5 from Sprayed to Unsprayed  
0.000E+000 Sec to 3.000E+001 Min at 3.2000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.2000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 3.2000E+003 percent per day

Flow#6 from Unsprayed to Sprayed  
0.000E+000 Sec to 3.000E+001 Min at 4.8000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.8000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 4.8000E+003 percent per day

Flow#7 from Sprayed to SecCont  
1.000E+000 Min to 1.000E+000 Dys at 3.8500E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#8 from Unsprayed to SecCont  
1.000E+000 Min to 1.000E+000 Dys at 3.8500E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#9 from Sprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#10 from SecCont to SGTS\_Vent  
1.000E+000 Min to 3.000E+001 Dys at 4.0010E+003 cfm

Flow#11 from MSIVVol to SecCont  
1.800E+001 Min to 1.000E+000 Dys at 8.6000E+002 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 5.5080E+002 percent per day

Flow#12 from CR\_Intake to ContolRoom  
0.000E+000 Sec to 2.000E+001 Min at 2.0000E+003 cfm  
2.000E+001 Min to 3.000E+000 Dys at 2.0000E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0000E+003 cfm

Flow#13 from ContolRoom to OutofCR  
0.000E+000 Sec to 2.000E+001 Min at 2.0100E+003 cfm  
2.000E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0100E+003 cfm

Flow#14 from Drywell to SecCont  
1.800E+001 Min to 1.000E+000 Dys at 9.2090E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 5.9000E-001 percent per day

Flow#15 from Unsprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#16 from ContolRoom to ContolRoom  
1.800E+001 Min to 3.000E+000 Dys at 4.0000E+003 cfm

Flow#17 from CR\_Intake to ContolRoom

0.000E+000 Sec to 3.000E+001 Dys at 1.0000E+001 cfm

#### FILTER PARAMETERS

SGTS\_Filter on Flow#10 is Not Tracked

1.000E+000 Min to 3.000E+001 Dys for Elemental Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Organic Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Particulate Species of All Groups at 0.989750

CRFAS\_HEPA on Flow#16 is Not Tracked

1.800E+001 Min to 3.000E+000 Dys for Particulate Species of All Groups at 0.990000

CRFAS\_HEPA on Flow#12 is Not Tracked

3.000E+000 Dys to 3.000E+001 Dys for Particulate Species of All Groups at 0.990000

#### REMOVAL PARAMETERS

Drywell\_Dep from Drywell

0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 0.86600 1/hr

Containment\_Spray from Sprayed

0.000E+000 Sec to 3.000E+001 Min for Halogens Elemental at 0.68230 1/hr  
3.000E+001 Min to 2.800E+000 Hrs for Halogens Elemental at 20.68000 1/hr  
3.000E+001 Min to 3.000E+000 Hrs for All Groups Particulate at 9.51000 1/hr  
3.000E+000 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.95100 1/hr

Unsprayed\_Removal from Unsprayed

0.000E+000 Sec to 2.800E+000 Hrs for Halogens Elemental at 1.09200 1/hr

MSIV\_Dep from MSIVVol

0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 30.44000 1/hr

#### DIFFUSION PARAMETERS

Diffusion from Encl\_Bldg\_Vent to EAB

0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to LPZ

0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to CR\_Intake

0.000E+000 Sec to 2.000E+000 Hrs at 7.5000E-003 s/cu.m.

Diffusion from SGTS\_Vent to EAB

0.000E+000 Sec to 3.000E+001 Dys at 6.0000E-004 s/cu.m.

Diffusion from SGTS\_Vent to LPZ

0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 4.5000E-005 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 2.0000E-005 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 7.0000E-006 s/cu.m.

Diffusion from SGTS\_Vent to CR\_Intake

0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 5.0000E-004 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 2.5000E-004 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 1.6000E-004 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 1.3000E-004 s/cu.m.

#### DOSE LOCATIONS

EAB (with 2-hr sliding window)

0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

LPZ

0.000E+000 Sec to 8.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
8.000E+000 Hrs to 2.400E+001 Hrs at Breathing Rate=1.8000E-004 cu.m./s  
2.400E+001 Hrs to 3.000E+001 Dys at Breathing Rate=2.3000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

ContolRoom

0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000  
1.000E+000 Dys to 4.000E+000 Dys at Occupancy Factor=0.600000  
4.000E+000 Dys to 3.000E+001 Dys at Occupancy Factor=0.400000

RRRRRR	AAAA	PPPPPP	TTTTTTTT	OOO	RRRRRR
RRRRRRRR	AAAAAA	PPPPPPPP	TTTTTTTTTT	OOOOOOO	RRRRRRRR
RR RR	AA AA	PP PP	TT	OO OO	RR RR
RR RR	AAA AAA	PP PP	TT	OO OO	RR RR
RR RR	AA AA	PP PP	TT	OO OO	RR RR
RRRRRRRR	AAAAAAAAAA	PPPPPPPP	TT	OO 2.10B	RRRRRRRR
RRRRRRR	AAAAAAAAAA	PPPPPP	TT	OO OO	RRRRRR
RR RR	AA AA	PP	TT	OO OO	RR RR
RR RR	AA AA	PP	TT	OO OO	RR RR
RR RR	AA AA	PP	TT	OOOOOOO	RR RR
RR RR	AA AA	PP	TT	OOO	RR RR

UU	UU	TTTTTTTTTT	PPPPPP	UU	UU	TTTTTTTTTT
UUUUUUUU	UU	TTTTTTTTTT	PPPPPPPP	UU	UU	TTTTTTTTTT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PPPPPPPP	UU	UU	TT
UU	UU	TT	PPPPPP	UU	UU	TT
UU	UU	TT	PP	UU	UU	TT
UU	UUU	UUU	TT	PP	UUU	UUU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	TT
UUU	UU	TT	PP	UU	UU	TT

Time = -121.000000 Seconds  
CPU ClockTime = 0.110000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00000	0.00000	0.00000	0.00000	0.00000 ending at	0.0 Sec
LPZ	0.00000	0.00000	0.00000	0.00000		
ControlRoom	0.00000	0.00000	0.00000	0.00000		

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.978390E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155300E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.697883E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.143675E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.243275E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.678945E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.065653E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.308247E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.175547E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.635714E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.302618E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.562010E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.478870E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.742760E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.884016E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092845E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.409164E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.472115E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.271141E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391960E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.477980E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.680518E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822060E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.793517E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.0			

[illegible]

Time = 0.000000 Seconds  
CPU ClockTime = 0.490000 Seconds

Isotope	WholeBody		Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
	EAB	0.00000	0.00000	0.00000	0.00000	0.00000 ending at		0.0 Sec
	LPZ	0.00000	0.00000	0.00000	0.00000			
	ContolRoom	0.00000	0.00000	0.00000	0.00000			
	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.978308E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155296E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	6.955443E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.142920E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.238497E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.144424E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.045698E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.295609E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.124993E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.479358E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.203594E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.543534E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.361102E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.671334E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.983866E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092824E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.405712E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.459514E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.270679E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.468285E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.676684E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.791032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827874E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.008248E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.752030E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766885E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.285103E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694860E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.206223E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	1.272003E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.732732E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.620598E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.255903E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680112E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.510729E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.780675E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.593743E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.527573E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	7.884410E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.773006E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227606E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	1.616785E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131P	1.023964E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132E	7.465113E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	2.308798E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132P	1.462239E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	1.044477E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	3.230341E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133P	2.045882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	1.121636E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	3.468977E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134P	2.197019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

I-135E	9.737302E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	3.011536E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135P	1.907306E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.120782E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.400606E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.398947E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.910134E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-139	1.920337E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926310E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.804212E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.719988E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786035E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701608E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397820E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666714E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.447892E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.174968E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.567811E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480739E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

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Time = 60.000000 Seconds
CPU ClockTime = 0.660000 Seconds
```

	WholeBody	Thyroid	Inhalation	TEDE	Sliding Window	2-Hour Window		
EAB	0.00000	0.00027	0.00001	0.00001	0.00001	ending at 60.0 Sec		
LPZ	0.00000	0.00006	0.00000	0.00000				
ContolRoom	0.00000	0.00001	0.00000	0.00000				
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.978267E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155295E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.694234E+004	6.079051E+001	3.516008E-003	3.279322E-001	0.000000E+000	2.450295E-004	1.920053E-004	1.933608E-009
Br-82O	1.142547E+003	1.893694E+000	1.099232E-004	1.025191E-002	0.000000E+000	8.946045E-006	5.966621E-006	6.027470E-011
Br-82P	7.236128E+005	1.191915E+003	6.940516E-002	6.466203E+000	0.000000E+000	5.619406E-003	3.763377E-003	3.805498E-008
Br-83E	6.582662E+005	1.083251E+003	6.265788E-002	5.843777E+000	0.000000E+000	4.366445E-003	3.421549E-003	3.446091E-008
Br-83O	2.305875E+004	3.374452E+001	1.958914E-003	1.826899E-001	0.000000E+000	1.594192E-004	1.063267E-004	1.074221E-009
Br-83P	1.289387E+007	2.123922E+004	2.136852E+000	1.152282E+002	0.000000E+000	1.001383E-001	6.706366E-002	6.782991E-007
Br-84E	1.100736E+006	1.811642E+003	1.048195E-001	9.774587E+000	0.000000E+000	7.303530E-003	5.723050E-003	5.766545E-008
Br-84O	3.404339E+004	5.643474E+001	3.277039E-003	3.055761E-001	0.000000E+000	2.666523E-004	1.778455E-004	1.797559E-009
Br-84P	2.156081E+007	3.552072E+004	2.069111E+000	1.927364E+002	0.000000E+000	1.674961E-001	1.121739E-001	1.135039E-006
Kr-85	1.510709E+006	2.514451E+003	1.459555E-001	3.161247E+001	0.000000E+000	1.187854E-002	7.922668E-003	8.003198E-008
Kr-85m	3.534409E+007	5.858155E+004	3.400610E+000	3.171496E+002	0.000000E+000	2.767517E-001	1.845813E-001	1.864742E-006
Kr-87	6.303501E+007	1.044839E+005	6.065864E+005	5.656873E+002	0.000000E+000	4.936311E-001	3.292304E-001	3.326610E-006
Kr-88	8.636132E+007	1.431426E+005	8.309512E+000	7.749567E+002	0.000000E+000	6.762442E-001	4.510253E-001	4.556677E-006
Rb-86	2.889372E+005	4.750088E+002	2.765961E-002	2.576943E+000	0.000000E+000	2.239473E-003	1.499799E-003	1.516753E-008
Sr-89	1.092814E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.404004E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.453305E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.270450E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.463501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.674786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.789800E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827849E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	1.007897E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.748938E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766864E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.281764E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694805E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.205829E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.170022E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.731638E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.511104E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.264361E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680105E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.475939E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.780564E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.593174E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.527348E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	7.786378E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.743985E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227293E+006	8.601759E+003	4.950702E-001	4.640177E+001	0.000000E+000	3.467120E-002	2.716838E-002	2.735999E-007
I-131O	1.616688E+005	2.679547E+002	1.555389E-002	1.450626E+000	0.000000E+000	1.265848E-003	8.442653E-004	5.828696E-009
I-131P	1.023903E+009	1.686540E+005	9.820674E+000	9.149552E+002	0.000000E+000	7.951330E-001	5.325105E-001	5.385306E-006
I-132E	7.427384E+006	1.222262E+004	7.069892E-001	6.593710E+001	0.000000E+000	4.926792E-002	3.860637E-002	3.888353E-007
I-132O	2.297129E+005	3.807488E+002	2.210366E-002	2.601345E+000	0.000000E+000	1.798775E-003	1.199704E-003	1.212083E-007
I-132P	1.454848E+008	2.396480E+005	1.395580E+001	1.300155E+003	0.000000E+000	1.129890E+000	7.566995E-001	7.653050E-006
I-133E	1.043897E+007	1.717789E+004	9.935403E-001	9.266568E+001	0.000000E+000	6.923939E-002	5.425604E-002	5.463937E-007
I-133O	3.228547E+005	5.351110E+002	3.106170E-002	2.896942E+000	0.000000E+000	1.527935E-003	1.686022E-003	1.703227E-008
I-133P	2.447474E+008	3.368055E+005	1.961225E+001	1.827192E+003	0.000000E+000	2.587908E+000	1.063439E+000	1.075475E-009

I-134E	1.106952E+007	1.821742E+004	1.053887E+000	9.828372E+001	0.000000E+000	7.343717E-002	5.754541E-002	5.797032E-007
I-1340	3.423564E+005	5.674935E+002	3.294834E-002	3.072575E+000	0.000000E+000	2.681196E-003	1.788241E-003	1.807060E-008
I-134P	2.168257E+008	3.571874E+005	2.080347E+001	1.937969E+003	0.000000E+000	1.684178E+000	1.127912E+000	1.141038E-005
I-135E	9.720195E+006	1.599527E+004	9.251581E-001	8.628692E+001	0.000000E+000	6.447321E-002	5.052125E-002	5.087973E-007
I-1350	3.006246E+005	4.982710E+002	2.892382E-002	2.697528E+000	0.000000E+000	2.353922E-003	1.569963E-003	1.586031E-008
I-135P	1.903956E+008	3.136179E+005	1.826240E+001	1.701415E+003	0.000000E+000	1.478602E+000	9.902357E-001	1.001473E-005
Xe-133	2.120588E+008	3.514725E+005	2.040184E+001	1.902767E+003	0.000000E+000	1.660396E+000	1.107412E+000	1.118699E-005
Xe-135	8.389948E+007	1.390588E+005	8.072073E+000	7.528304E+002	0.000000E+000	6.569363E-001	4.381478E-001	4.426266E-006
Cs-134	3.203848E+007	5.277273E+004	3.072938E+000	2.862942E+002	0.000000E+000	2.488019E-001	1.666253E-001	1.685088E-006
Cs-136	9.398603E+006	1.548107E+004	9.014583E-001	8.398549E+001	0.000000E+000	7.298697E-002	4.888016E-002	4.943273E-007
Cs-137	1.641027E+007	2.703045E+004	1.573974E+000	1.466413E+002	0.000000E+000	1.274376E-001	8.534630E-002	8.631103E-007
Cs-138	1.869455E+008	3.079858E+005	1.794035E+001	1.671136E+003	0.000000E+000	1.452288E+000	9.726128E-001	9.841378E-006
Ba-139	1.904511E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926238E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980265E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.798875E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.707133E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786008E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701014E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397818E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666655E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.447565E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.173564E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.567287E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170049E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480714E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1080.000000 Seconds  
CPU ClockTime = 3.900000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window			
EAB	0.00008	0.00115	0.00005	0.00013	0.00013 ending at	1080.0 Sec		
LPZ	0.00002	0.00024	0.00001	0.00003				
ContolRoom	0.00000	0.00046	0.00002	0.00002				
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.977576E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155264E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.673741E+004	8.833807E+002	1.366225E+001	7.184244E+001	1.371497E-003	1.517621E-002	5.469215E-002	2.417673E-009
Br-820	1.136208E+003	3.088973E+001	5.119173E-001	2.676361E+000	4.888878E-005	2.752650E-003	1.835897E-003	7.763689E-011
Br-82P	7.195987E+005	1.759090E+004	3.065918E+002	1.574436E+003	2.933278E-002	1.505388E+000	1.083147E+000	4.845676E-008
Br-83E	6.065454E+005	1.458542E+004	2.255933E+002	1.186230E+003	2.264647E-002	2.505824E-001	9.030510E-001	3.992441E-008
Br-830	1.875913E+004	5.100177E+002	8.452860E+000	4.419087E+001	8.072631E-004	4.545046E-002	3.031347E-002	1.282063E-009
Br-83P	1.188079E+007	2.904419E+005	5.062493E+003	2.599638E+004	4.843499E-001	2.485626E+001	1.788441E+001	8.001945E-007
Br-84E	7.598981E+005	1.827563E+004	2.827509E+002	1.486572E+003	2.838481E-002	3.140260E-001	1.131689E+000	5.005607E-008
Br-840	2.350200E+004	6.390557E+002	1.059453E+001	5.537959E+001	1.011814E-003	5.695780E-002	3.798836E-002	1.607419E-009
Br-84P	1.488460E+007	3.639257E+005	6.345155E+003	3.257843E+004	6.070784E-001	3.114948E+001	2.241247E+001	1.003263E-006
Kr-85	1.517076E+006	4.124415E+004	6.835112E+002	3.573483E+003	6.527621E-002	3.675344E+000	2.451294E+000	3.005821E-006
Kr-85m	3.382816E+007	9.196927E+005	1.524210E+004	7.968594E+004	1.455644E+000	8.195730E+001	5.466194E+001	6.703336E-005
Kr-87	5.400363E+007	1.468287E+006	2.433664E+004	1.272255E+005	2.324203E+000	1.308517E+002	8.727236E+001	1.070482E-004
Kr-88	8.059108E+007	2.191072E+006	3.631363E+004	1.898459E+005	3.468013E+000	1.952572E+002	1.302280E+002	1.597101E-004
Rb-86	2.882527E+005	7.046445E+003	1.228118E+002	6.306753E+002	1.174986E-002	6.030167E-001	4.338786E-001	1.941027E-008
Sr-89	1.092637E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.375277E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.351711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391731E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.384520E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.642848E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.768999E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827421E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.692711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766496E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.226304E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694681E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.199158E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171984E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.713050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.453468E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.228426E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679979E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.934571E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778669E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.583547E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.523519E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.294506E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.317338E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.221975E+006	1.255663E+005	1.941984E+003	1.021187E+004	1.949476E-001	2.157186E+000	7.774087E+000	3.436519E-007
I-1310	1.615004E+005	4.390758E+003	7.276511E+001	3.804250E+002	6.949163E-003	3.912689E-001	2.609593E-001	1.103543E-008
I-131P	1.022861E+008	2.500423E+006	4.357967E+004	2.237945E+005	4.169429E+001	2.139799E+002	1.539614E+002	6.887721E-006
I-132E	6.143939E+006	1.638641E+005	2.534503E+003	1.232707E+004	2.544294E-001	2.815245E+001	1.014561E+001	4.85463E-007
I-1320	2.107544E+005	5.729399E+003	9.496648E+001	4.964761E+002	9.069470E-003	5.106272E-001	3.405660E+000	1.440348E-008
I-132P	1.334778E+008	3.263052E+006	5.687627E+004	2.920645E+005	4.41592E+001	2.792545E+002	2.092680E+002	8.99096E-008

I-133E	1.034087E+007	2.486551E+005	3.845682E+003	2.022233E+004	3.860520E-001	4.271825E+000	1.539484E+001	6.805351E-007
I-133O	3.198207E+005	8.694879E+003	1.440956E+002	7.533468E+002	1.376133E-002	7.748206E-001	5.167715E-001	2.185350E-008
I-133P	2.025531E+008	4.951509E+006	8.630016E+004	4.431751E+005	8.256660E+000	4.237393E+002	3.048861E+002	1.363978E-005
I-134E	8.847852E+006	2.127766E+005	3.291488E+003	1.730633E+004	3.304231E-001	3.655827E+000	1.317490E+001	5.826043E-007
I-134O	2.736449E+005	7.440293E+003	1.233303E+002	6.447165E+002	1.177836E-002	6.630913E-001	4.422529E-001	1.870878E-008
I-134P	1.733084E+008	4.237054E+006	7.386360E+004	3.792706E+005	7.066902E+000	3.626360E+002	2.609214E+002	1.167700E-005
I-135E	9.433937E+006	2.268494E+005	3.508508E+003	1.844914E+004	3.522050E-001	3.897248E+000	1.404494E+001	6.208827E-007
I-135O	2.917712E+005	7.932386E+003	1.314619E+002	6.872895E+002	1.255481E-002	7.068802E-001	4.714582E-001	1.993794E-008
I-135P	1.847884E+008	4.517288E+006	7.873370E+004	4.043152E+005	7.532759E+000	3.865836E+002	2.781520E+002	1.244418E-005
Xe-133	2.117280E+008	5.756171E+006	9.539325E+004	4.987276E+005	9.110179E+000	5.129437E+002	3.421110E+002	4.195041E-004
Xe-135	8.210820E+007	2.232267E+006	3.699463E+004	1.934106E+005	3.533039E+000	1.989236E+002	1.326733E+002	1.626935E-004
Cs-134	3.203813E+007	7.831840E+005	1.365004E+004	7.009701E+004	1.305949E+000	6.702287E+001	4.822385E+001	2.157371E-006
Cs-136	9.392761E+006	2.296096E+005	4.001845E+003	2.055066E+004	3.828713E-001	1.964940E+001	1.413801E+001	6.324871E-007
Cs-137	1.641026E+007	4.011548E+005	6.991687E+003	3.590440E+004	6.689205E-001	3.432979E+001	2.470074E+001	1.105027E-006
Cs-138	1.296541E+008	3.170011E+006	5.526986E+004	2.837771E+005	5.287992E+000	2.713301E+002	1.952256E+002	8.738935E-006
Ba-139	1.654574E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925002E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.970631E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.710533E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.502738E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785559E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.690958E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665650E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.442017E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.149747E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.558381E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480288E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789995E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1200.000000 Seconds  
CPU ClockTime = 4.340000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	0.00026	0.00320	0.00014	0.00040	0.00040 ending at	1200.0 Sec	
LPZ	0.00005	0.00067	0.00003	0.00008			
ContolRoom	0.00000	0.00054	0.00002	0.00002			

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.977495E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155261E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.671337E+004	9.581101E+002	1.781534E+001	8.487670E+001	1.363656E-002	1.654569E-002	5.465637E-002	3.881451E-009
Br-82O	1.135465E+003	3.393322E+001	6.814411E-001	3.224424E+000	5.109930E-004	3.335891E-003	1.834696E-003	1.322696E-010
Br-82P	7.191279E+005	1.911092E+004	4.056134E+002	1.881732E+003	2.905163E-001	1.795511E+000	1.082438E+000	7.783670E-008
Br-83E	6.007341E+005	1.567797E+004	2.915422E+002	1.388928E+003	2.231506E-001	2.707543E-001	8.943990E-001	6.352403E-008
Br-83O	1.857941E+004	5.552639E+002	1.115156E+001	5.276469E+001	8.361980E-003	5.458866E-002	3.002304E-002	2.164734E-009
Br-83P	1.176696E+007	3.127201E+005	6.637728E+003	3.079280E+004	4.754061E+000	2.938182E+001	1.771306E+001	1.273881E-006
Br-84E	7.274826E+005	1.898854E+004	3.532058E+002	1.682463E+003	2.703160E-001	3.279734E-001	1.083414E+000	7.698453E-008
Br-84O	2.249946E+004	6.725138E+002	1.351021E+001	6.391596E+001	1.012945E-002	6.612500E-002	3.636787E-002	2.623444E-009
Br-84P	1.424966E+007	3.787543E+005	8.041664E+003	3.730054E+004	5.758930E+000	3.559114E+001	2.145640E+001	1.543818E-006
Kr-85	1.517076E+006	4.533749E+004	9.104546E+002	4.308075E+003	6.827252E-001	4.457004E+000	2.451293E+000	1.024575E-005
Kr-85m	3.365415E+007	1.005769E+006	2.019844E+004	9.557265E+004	1.514600E+001	9.887648E+001	5.438076E+001	2.273142E-004
Kr-87	5.303003E+007	1.584911E+006	3.183263E+004	1.506139E+005	2.386897E+001	1.558201E+002	8.569899E+001	3.582947E-004
Kr-88	7.993808E+007	2.389014E+006	4.797879E+004	2.270177E+005	3.597701E+001	2.348653E+002	1.291728E+002	5.399724E-004
Rb-86	2.882378E+005	7.659937E+003	1.625750E+002	7.542241E+002	1.164429E-001	7.196656E-001	4.338562E-001	3.119776E-008
Sr-89	1.092616E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.371937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.340235E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266106E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391708E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.375513E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.639131E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821758E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.766568E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827371E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001224E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.686216E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766452E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.219939E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694661E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.198376E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171982E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.710866E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.435381E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.225410E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679964E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.876699E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778446E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.582418E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.532069E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.138951E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.274567E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.221350E+006	1.362614E+005	2.533669E+003	1.207105E+004	1.939737E+000	2.353105E+000	7.773156E+000	5.520107E-007
I-131O	1.614850E+005	4.825949E+003	9.691343E+001	4.585732E+002	7.267727E-002	4.744260E-001	2.609280E-001	1.881107E-008
I-131P	0.022739E+008	2.717935E+006	5.768566E+004	2.676175E+005	4.316838E-001	2.535352E+002	1.539429E+002	1.106975E-008

I-132E	6.745687E+006	1.760494E+005	3.273769E+003	1.559644E+004	2.505786E+000	3.040332E+000	1.004331E+001	7.133238E-007
I-132O	2.086295E+005	6.235111E+003	1.252224E+002	5.925010E+002	9.389771E-002	6.129825E-001	3.371323E-001	2.430822E-008
I-132P	1.321320E+008	3.511564E+006	7.453600E+004	3.457760E+005	5.338394E+001	3.299319E+002	1.989021E+002	1.430466E-005
I-133E	1.032939E+007	2.695669E+005	5.012415E+003	2.388034E+004	3.836693E+000	4.655183E+000	1.537775E+001	1.092066E-006
I-133O	3.194656E+005	9.547207E+003	1.917261E+002	9.072024E+002	1.437696E-001	9.385640E-001	5.161978E-001	3.721473E-008
I-133P	2.023282E+008	5.376909E+006	1.141209E+005	5.294317E+005	8.173777E+001	5.051730E+002	3.045476E+002	2.189975E-005
I-134E	8.617709E+006	2.249207E+005	4.183141E+003	1.992742E+004	3.201646E+000	3.884592E+000	1.283221E+001	9.116070E-007
I-134O	2.665271E+005	7.965980E+003	1.600062E+002	7.570329E+002	1.199736E-001	7.831996E-001	4.307494E-001	3.106526E-008
I-134P	1.688005E+008	4.486375E+006	9.524028E+004	4.417948E+005	6.820899E+001	4.215496E+002	2.541346E+002	1.828097E-005
I-135E	9.400819E+006	2.453364E+005	4.561958E+003	2.173404E+004	3.491865E+000	4.236786E+000	1.399563E+001	9.939462E-007
I-135O	2.907470E+005	8.689039E+003	1.744960E+002	8.256655E+002	1.308482E-001	8.542080E-001	4.698031E-001	3.387108E-008
I-135P	1.841397E+008	4.893596E+006	1.038650E+005	4.818478E+005	7.439153E+001	4.597692E+002	2.771756E+002	1.993211E-005
Xe-133	2.116892E+008	6.326291E+006	1.270430E+005	6.011395E+005	9.526601E+001	6.219208E+002	3.420482E+002	1.429674E-003
Xe-135	8.189999E+007	2.447590E+006	4.915285E+004	2.325783E+005	3.685808E+001	2.406184E+002	1.323369E+002	5.531535E-004
Cs-134	3.203809E+007	8.514140E+005	1.807046E+004	8.383318E+004	1.294281E+001	7.999195E+001	4.822379E+001	3.467677E-006
Cs-136	9.392074E+006	2.495950E+005	5.297420E+003	2.457599E+004	3.794229E+000	2.344992E+001	1.413697E+001	1.016563E-006
Cs-137	1.641025E+007	4.361034E+005	9.255883E+003	4.294026E+004	6.629444E+000	4.097274E+001	2.470074E+001	1.776181E-006
Cs-138	1.241906E+008	3.300964E+006	7.008534E+004	3.250854E+005	5.019078E+001	3.101875E+002	1.869990E+002	1.345473E-005
Ba-139	1.627415E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.924856E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.969501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.700429E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.480360E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785506E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.689778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397773E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665532E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.441364E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.146951E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.557336E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480238E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789995E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1800.000000 Seconds  
CPU ClockTime = 6.430000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	0.00621	0.07027	0.00309	0.00930	ending at	1800.0 Sec	
LPZ	0.00129	0.01464	0.00064	0.00194			
ContolRoom	0.00001	0.00350	0.00015	0.00017			
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg
Co-58	5.977089E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155243E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.659343E+004	1.277767E+003	4.698648E+001	1.548648E+002	8.442220E-002	2.278358E-002	5.145625E-008
Br-82O	1.131756E+003	4.811182E+001	1.988394E+000	6.468716E+000	3.351956E-003	6.963923E-003	1.828702E-003
Br-82P	7.167785E+005	2.568872E+004	1.147983E+003	3.630453E+003	1.838370E+000	3.467439E+000	1.078902E+000
Br-83E	5.725026E+005	1.999135E+004	7.351853E+002	2.423041E+003	1.318069E+000	3.564748E-001	8.523666E-001
Br-83O	1.770627E+004	7.527355E+002	3.111189E+001	1.012107E+002	5.244546E-002	1.089584E-001	2.861210E-002
Br-83P	1.121397E+007	4.019139E+005	1.796221E+004	5.680273E+004	2.876354E+001	5.425198E+001	1.688064E+001
Br-84E	5.850044E+005	2.043080E+004	7.515648E+002	2.476686E+003	1.347251E+000	3.643623E-001	8.712264E-001
Br-84O	1.809292E+004	7.692819E+002	3.180505E+001	1.034515E+002	5.360720E-002	1.113693E-001	2.924518E-002
Br-84P	1.145885E+007	4.107486E+005	1.836240E+004	5.806038E+004	2.940069E+001	5.545238E+001	1.725414E+001
Kr-85	1.517074E+006	6.449184E+004	2.665342E+003	8.671011E+003	4.493139E+000	9.334816E+000	2.451290E+000
Kr-85m	3.279741E+007	1.394270E+006	5.762544E+004	1.874658E+005	9.714108E+001	2.018167E+002	5.299638E+001
Kr-87	4.841909E+007	2.058484E+006	8.508705E+004	2.767888E+005	1.434271E+002	2.979761E+002	7.824749E+001
Kr-88	7.675164E+007	3.262875E+006	1.348587E+005	4.387140E+005	2.273331E+002	4.722980E+002	1.240238E+002
Rb-86	2.881634E+005	1.032750E+004	4.615153E+002	1.459528E+003	7.390678E-001	1.393992E+000	4.337442E-001
Sr-89	1.092512E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232039E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.355354E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.284303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.263825E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391593E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.331349E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.620671E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821621E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.754462E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827120E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	1.997721E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.654113E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766236E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.188607E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.194471E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171972E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.699954E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.346357E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.210442E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679890E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.604012E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.777332E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.576786E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.520821E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	5.416972E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.080659E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

I-131E	5.218225E+006	1.822092E+005	6.700228E+003	2.208362E+004	1.201289E+001	3.248925E+000	7.768503E+000	7.337580E-006
I-1310	1.613884E+005	6.860733E+003	2.835431E+002	9.224349E+002	4.779868E-001	9.930514E-001	2.607719E-001	2.831779E-007
I-131P	1.022127E+008	3.663204E+006	1.637014E+005	5.177004E+005	2.621503E+002	4.944547E+002	1.538508E+002	1.481956E-004
I-132E	6.412407E+006	2.239168E+005	8.234614E+003	2.713978E+004	1.476330E+001	3.992770E+000	9.547109E+000	9.018697E-006
I-1320	1.983218E+005	8.431151E+003	3.484759E+002	1.133632E+003	5.874264E-001	1.220411E+000	3.204758E-001	3.480579E-007
I-132P	1.256038E+008	4.501710E+006	2.011899E+005	6.362309E+005	3.221721E+002	6.076605E+002	1.890751E+002	1.821493E-004
I-133E	1.027218E+007	3.586839E+005	1.318970E+004	4.347241E+004	2.364780E+001	6.395626E+000	1.529258E+001	1.444447E-005
I-1330	3.176962E+005	1.350554E+004	5.581672E+002	1.815847E+003	9.409348E-001	1.954857E+000	5.133387E-001	5.574532E-007
I-133P	2.012076E+008	7.211119E+006	3.222534E+005	1.019112E+006	5.160526E+002	9.733518E+002	3.028608E+002	2.917323E-004
I-134E	7.553736E+006	2.637891E+005	9.702278E+003	3.197484E+004	1.739345E+001	4.704070E+000	1.124790E+001	1.062759E-005
I-1340	2.336207E+005	9.932464E+003	4.105853E+002	1.335593E+003	6.920827E-001	1.437824E+000	3.775675E-001	4.101515E-007
I-134P	1.479598E+008	5.303317E+006	2.370482E+005	7.495784E+005	3.795705E+002	7.159134E+002	2.227582E+002	2.146448E-004
I-135E	9.236963E+006	3.225395E+005	1.186082E+004	3.909214E+004	2.126506E+001	5.751199E+000	1.375169E+001	1.298945E-005
I-1350	2.856792E+005	1.214460E+004	5.019313E+002	1.632883E+003	8.461271E-001	1.757885E+000	4.616144E-001	5.012999E-007
I-135P	1.809302E+008	6.484458E+006	2.897861E+005	9.164268E+005	4.640557E+002	8.752764E+002	2.723444E+002	2.623455E-004
Xe-133	2.114949E+008	8.990799E+006	3.715755E+005	1.208825E+006	6.263885E+002	1.301366E+003	3.417343E+002	3.530396E-002
Xe-135	8.086684E+007	3.437740E+006	1.420793E+005	4.622140E+005	2.395100E+002	4.975980E+002	1.306675E+002	1.349945E-002
Cs-134	3.203789E+007	1.148207E+006	5.131105E+004	1.622696E+005	8.216921E+001	1.549834E+002	4.822348E+001	4.645083E-005
Cs-136	9.388639E+006	3.364798E+005	1.503661E+004	4.755282E+004	2.407954E+001	4.541762E+001	1.413180E+001	1.361235E-005
Cs-137	1.641025E+007	5.881273E+005	2.628223E+004	8.311674E+004	4.208820E+001	7.938465E+001	2.470073E+001	2.379276E-005
Cs-138	1.001385E+008	3.589511E+006	1.604674E+005	5.073854E+005	2.569305E+002	4.845944E+002	1.507828E+002	1.453230E-004
Ba-139	1.498162E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.924130E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.963859E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.650798E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.373373E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785241E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.683895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397749E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.664941E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.438103E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.132990E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.552114E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409446E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170044E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.479987E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789994E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 7200.000000 Seconds  
CPU ClockTime = 25.870000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	1.99881	10.61729	0.75359	2.75240	2.75240 ending at	7200.0 Sec
LPZ	0.41642	2.21194	0.15700	0.57342		
ContolRoom	0.02575	2.11998	0.14174	0.16749		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	7.886535E+002	4.859044E+001	9.702808E+001	2.478816E-001	3.000421E-001	0.000000E+000	5.454537E-007
Co-60	9.446629E+002	5.820246E+001	1.162219E+002	2.969168E-001	3.593957E-001	0.000000E+000	6.53338E-007
Br-82E	3.598755E+003	9.553642E+001	3.291438E+002	1.109017E+000	6.697880E-002	5.289680E-002	4.389361E-006
Br-820	1.907181E+002	7.721728E+001	6.139653E+001	7.664301E-002	9.527930E-002	1.775631E-003	2.568023E-007
Br-82P	9.774533E+004	6.233773E+003	1.233934E+004	3.599555E+001	4.264994E+001	1.047591E+000	8.870803E-005
Br-83E	3.760012E+004	9.982627E+002	3.439105E+003	1.158758E+001	6.998270E-001	5.526914E-001	4.586745E-005
Br-830	1.992640E+003	8.069363E+002	6.415913E+002	8.008273E-001	9.955242E-001	1.855265E-002	2.683554E-006
Br-83P	1.021252E+006	6.513813E+004	1.289319E+005	3.761036E+002	4.456272E+002	1.094574E+001	9.269787E-004
Br-84E	8.333059E+003	2.213132E+002	7.623358E+002	2.568472E+000	1.551199E-001	1.225066E-001	1.017117E-005
Br-840	4.416153E+002	1.789725E+002	1.422878E+002	1.775272E-001	2.206625E-001	4.112280E-003	5.951239E-007
Br-84P	2.263331E+005	1.444208E+004	2.858208E+004	8.336902E+001	9.877528E+001	2.426173E+000	2.056560E-004
Kr-85	3.41581E+005	3.198843E+005	2.615497E+005	3.254259E+002	4.116980E+002	2.451263E+000	9.526100E-002
Kr-85m	1.601312E+007	5.483958E+006	4.483834E+006	5.578576E+003	7.057383E+003	4.201989E+001	1.633100E+000
Kr-87	1.314985E+007	4.504577E+006	3.682938E+006	5.481498E+003	5.795781E+003	3.450827E+001	1.341415E+000
Kr-88	3.277375E+007	1.122459E+007	9.177459E+006	1.141780E+004	1.444439E+004	8.600236E+001	3.342620E+000
Rb-86	3.278523E+004	2.107306E+003	4.163140E+003	1.248294E+001	1.472965E+001	4.327378E-001	3.139269E-005
Sr-89	1.152938E+006	7.103470E+004	1.418460E+005	3.623798E+002	4.386337E+002	0.000000E+000	7.974027E-004
Sr-90	1.301293E+005	8.017510E+003	1.600981E+004	4.090091E+001	4.950750E+001	0.000000E+000	9.000085E-005
Sr-91	1.283153E+006	7.905976E+004	1.578694E+005	4.033129E+002	4.881787E+002	0.000000E+000	8.875007E-004
Sr-92	9.243012E+005	5.695373E+004	1.137244E+005	2.905303E+002	3.516616E+002	0.000000E+000	6.393678E-004
Y-90	1.313389E+003	8.092070E+001	1.615867E+002	4.128118E-001	4.996777E-001	0.000000E+000	9.083802E-007
Y-91	1.468734E+004	9.049146E+002	1.806984E+003	4.616374E+000	5.587777E+000	0.000000E+000	1.015815E-005
Y-92	1.048337E+004	6.459506E+002	1.289836E+003	3.295143E+000	3.988493E+000	0.000000E+000	7.251416E-006
Y-93	1.545902E+004	9.524853E+002	1.901958E+003	4.858983E+000	5.881420E+000	0.000000E+000	1.069230E-005
Zr-95	1.922722E+004	1.184626E+003	2.365526E+003	6.043305E+000	7.314970E+000	0.000000E+000	1.329806E-005
Zr-97	1.741891E+004	1.073230E+003	2.143073E+003	5.474976E+000	6.627039E+000	0.000000E+000	1.204768E-005
Nb-95	1.927442E+004	1.187534E+003	2.371333E+003	6.058140E+000	7.332926E+000	0.000000E+000	1.333070E-005
Mo-99	2.596272E+005	1.599619E+004	3.194204E+004	8.160354E+001	9.877496E+001	0.000000E+000	1.795662E-004
Tc-99m	1.836970E+005	1.131844E+004	2.260093E+004	5.773897E+001	6.988839E+001	0.000000E+000	1.270584E-004
Ru-103	2.329335E+005	1.435147E+004	2.865782E+004	7.321328E+001	8.861922E+001	0.000000E+000	1.611030E-004
Ru-105	1.241683E+005	7.650715E+003	1.527705E+004	3.902840E+001	4.724066E+001	0.000000E+000	8.588597E-005
Ru-106	1.015771E+005	6.258354E+003	1.249703E+004	3.192667E+001	3.864485E+001	0.000000E+000	7.025339E-005
Rh-105	1.531383E+005	9.435209E+003	1.884070E+004	4.813302E+001	5.826139E+001	0.000000E+000	1.059157E-004
Sb-125	5.734926E+004	3.533396E+003	7.055681E+003	1.802543E+001	2.181844E+001	0.000000E+000	3.966426E-005
Sb-127	2.271486E+006	1.399510E+005	2.794616E+005	7.139514E+002	8.641847E+002	0.000000E+000	1.571027E-003
Sb-129	6.976703E+005	4.298747E+004	8.583793E+004	2.192908E+002	2.654335E+002	0.000000E+000	4.825721E-004
Te-127	2.861568E+005	1.763117E+004	3.520656E+004	8.994308E+001	1.088691E+002	0.000000E+000	1.979222E-004
Te-127m	4.434048E+004	2.731901E+003	5.455212E+003	1.393665E+001	1.686927E+001	0.000000E+000	3.066705E-005
Te-129	2.806134E+005	1.729323E+004	3.452925E+004	8.820904E+001	1.067678E+001	0.000000E+000	1.941482E-004
Te-129m	2.050988E+005	2.263652E+004	2.523331E+004	6.644566E+001	7.802954E+001	0.000000E+000	1.418518E-004
Te-131m	4.032085E+005	1.484264E+004	4.960703E+004	1.267329E+002	1.534006E+002	0.000000E+000	2.788732E-004

Te-132	3.962778E+006	2.441551E+005	4.875419E+005	1.245542E+003	1.507635E+003	0.000000E+000	2.740776E-003
Te-133m	4.639341E+005	2.859239E+004	5.708901E+004	1.458388E+002	1.765215E+002	0.000000E+000	3.210115E-004
Te-134	6.462142E+005	3.983015E+004	7.952429E+004	2.031477E+002	2.458851E+002	0.000000E+000	4.472004E-004
I-131E	5.256795E+005	1.395518E+004	4.807875E+004	1.619966E+002	9.783747E+000	7.726757E+000	6.411596E-004
I-131O	2.785869E+004	1.127920E+004	8.968256E+003	1.119540E+001	1.391767E+001	2.593705E-001	3.751139E-005
I-131P	1.427792E+007	9.105776E+005	1.802433E+006	5.257949E+003	6.229974E+003	1.530240E+002	1.295769E-002
I-132E	4.116532E+005	1.092922E+004	3.765207E+004	1.268633E+002	7.661853E+000	6.050981E+000	5.021698E-004
I-132O	2.181580E+004	8.834589E+003	7.024332E+003	8.767639E+000	1.089921E+001	2.031183E-001	2.938033E-005
I-132P	1.118086E+007	7.131488E+005	1.411576E+006	4.117664E+003	4.878820E+003	1.198363E+002	1.014883E-002
I-133E	9.896777E+005	2.627317E+004	9.051663E+004	3.049865E+002	1.841958E+001	1.454694E+001	1.207108E-003
I-133O	5.244854E+004	2.123540E+004	1.688454E+004	2.107733E+001	2.620239E+001	4.883095E-001	7.062267E-005
I-133P	2.688051E+007	1.714332E+006	3.393401E+006	9.899003E+003	1.172899E+004	2.880940E+002	2.439540E-002
I-134E	2.337100E+005	6.205909E+003	2.137842E+004	7.203006E+001	4.350198E+000	3.435587E+000	2.851782E-004
I-134O	1.238560E+004	5.017538E+003	3.989250E+003	4.978304E+000	6.188282E+000	1.153252E-001	1.668542E-005
I-134P	6.347768E+006	4.049595E+005	8.015058E+005	2.337954E+003	2.770065E+003	6.803985E+001	5.763512E-003
I-135E	7.986296E+005	2.120189E+004	7.304426E+004	2.461144E+002	1.486400E+001	1.173891E+001	9.741269E-004
I-135O	4.232384E+004	1.713703E+004	1.362579E+004	1.700885E+001	2.114447E+001	3.940498E-001	5.699224E-005
I-135P	2.169148E+007	1.383436E+006	2.738389E+006	7.988199E+003	9.464915E+003	2.324824E+002	1.968694E-002
Xe-133	1.291606E+008	4.422871E+007	3.616309E+007	4.499482E+004	5.692314E+004	3.389223E+002	1.317123E+001
Xe-135	4.441945E+007	1.521136E+007	1.243731E+007	1.547436E+004	1.957655E+004	1.165594E+002	4.529899E+000
Cs-134	3.653314E+006	2.348206E+005	4.639056E+005	1.390995E+003	1.641350E+003	4.822071E+001	3.498138E-003
Cs-136	1.067140E+006	6.859158E+004	1.355077E+005	4.063121E+002	4.794413E+002	1.408536E+001	1.021814E-003
Cs-137	1.871378E+006	1.202848E+005	2.376316E+005	7.125247E+002	8.407670E+002	2.470063E+001	1.791890E-003
Cs-138	1.645656E+006	1.058318E+005	2.090415E+005	6.267321E+002	7.394878E+002	2.172519E+001	1.576974E-003
Ba-139	7.514233E+005	4.630574E+004	9.245961E+004	2.362009E+002	2.858976E+002	0.000000E+000	5.198567E-004
Ba-140	2.025402E+006	1.247889E+005	2.491854E+005	6.366038E+002	7.705614E+002	0.000000E+000	1.400823E-003
La-140	2.021395E+004	1.245428E+003	2.486935E+003	6.353464E+000	7.690389E+000	0.000000E+000	1.398065E-005
La-141	1.335599E+004	8.229460E+002	1.643264E+003	4.198054E+000	5.081394E+000	0.000000E+000	9.238328E-006
La-142	7.385106E+003	4.550917E+002	9.086966E+002	2.321400E+000	2.809829E+000	0.000000E+000	5.109093E-006
Ce-141	4.707717E+004	2.900514E+003	5.791908E+003	1.477968E+001	1.791045E+001	0.000000E+000	3.255983E-005
Ce-143	4.308984E+004	2.654868E+003	5.301373E+003	1.354361E+001	1.639352E+001	0.000000E+000	2.980244E-005
Ce-144	3.690247E+004	2.273631E+003	4.540113E+003	1.159881E+001	1.403949E+001	0.000000E+000	2.552273E-005
Pr-143	1.752931E+004	1.080015E+003	2.156633E+003	5.509636E+000	6.669003E+000	0.000000E+000	1.212375E-005
Nd-147	7.825302E+003	4.821320E+002	9.627478E+002	2.459570E+000	2.977126E+000	0.000000E+000	5.412194E-006
Np-238	1.586639E+004	9.775634E+002	1.952049E+003	4.986974E+000	6.036357E+000	0.000000E+000	1.097370E-005
Pu-239	6.616130E+005	4.076342E+004	8.139853E+004	2.079519E+002	2.517101E+002	0.000000E+000	4.575923E-004
Pu-238	1.956489E+002	1.205430E+001	2.407070E+001	6.149438E-002	7.443436E-002	0.000000E+000	1.353160E-007
Pu-239	1.410327E+001	8.689289E-001	1.735126E+000	4.432795E-003	5.365568E-003	0.000000E+000	9.754192E-009
Pu-240	2.136139E+001	1.316116E+000	2.628093E+000	6.714095E-003	8.126912E-003	0.000000E+000	1.477410E-008
Pu-241	5.730034E+003	3.530382E+002	7.049663E+002	1.801006E+000	2.179983E+000	0.000000E+000	3.963043E-006
Am-241	2.944546E+000	1.814190E-001	3.622676E-001	9.254998E-004	1.120249E-003	0.000000E+000	2.036526E-009
Cm-242	8.954305E+002	5.516916E+001	1.101649E+002	2.814426E-001	3.406653E-001	0.000000E+000	6.193035E-007
Cm-244	1.890606E+002	1.164838E+001	2.326013E+001	5.942359E-002	7.192782E-002	0.000000E+000	1.307593E-007

Time = 7201.000000 Seconds  
CPU ClockTime = 25.870000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	1.99966	10.62145	0.75389	2.75355	2.75355 ending at	7201.0 Sec
LPZ	0.41650	2.21235	0.15703	0.57353		
ContolRoom	0.02577	2.12104	0.14181	0.16758		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	2.877822E+002	5.023643E+001	5.968815E+002	2.479923E-001	3.000659E-001	0.000000E+000	5.456675E-007
Co-60	3.447105E+002	6.017407E+001	7.149552E+002	2.970495E-001	3.594241E-001	0.000000E+000	6.536100E-007
Br-82E	1.276088E+003	1.030108E+002	2.646701E+003	1.109369E+000	6.703302E-002	5.289652E-002	4.390672E-006
Br-82O	8.194481E+001	7.763456E+001	1.699596E+002	7.667658E-002	9.530959E-002	1.775622E-003	2.568993E-007
Br-82P	3.576937E+004	6.437544E+003	7.418833E+004	3.600851E+001	4.265056E+001	1.047585E+000	8.873486E-005
Br-83E	1.333175E+004	1.076278E+003	2.765103E+004	1.159040E+001	7.003411E-001	5.526470E-001	4.587773E-005
Br-83O	8.561403E+002	8.112356E+002	1.775698E+003	8.011182E-001	9.957663E-001	1.855117E-002	2.684367E-006
Br-83P	3.736968E+005	6.726221E+004	7.750748E+005	3.762109E+002	4.456003E+002	1.094486E+001	9.271898E-004
Br-84E	2.953837E+003	2.385382E+002	6.126476E+003	2.568368E+000	1.551899E+001	1.224621E-001	1.017075E-005
Br-84O	1.897181E+002	1.798746E+002	3.934895E+002	1.775414E-001	2.206537E-001	4.110786E-003	5.951358E-007
Br-84P	8.279895E+004	1.490867E+004	1.717312E+005	8.336921E+001	9.874138E+001	2.425291E+000	2.055536E-004
Kr-85	3.886326E+005	3.219296E+005	8.060528E+005	3.255895E+002	4.118481E+002	2.451263E+000	9.530326E-002
Kr-85m	6.661697E+006	5.518782E+006	1.381685E+007	5.581141E+003	7.059653E+003	4.201808E+001	1.633754E+000
Kr-87	5.470214E+006	4.532685E+006	1.134563E+007	4.583106E+003	5.797016E+003	3.450304E+001	1.341807E+000
Kr-88	1.363418E+007	1.129559E+007	2.827831E+007	1.142277E+004	1.444867E+004	8.599653E+001	3.343875E+000
Rb-86	1.200555E+004	2.175650E+003	2.490040E+004	1.248730E+001	1.472977E+001	4.327376E-001	3.140190E-005
Sr-89	4.207107E+005	7.344099E+004	8.725852E+005	3.625417E+002	4.386684E+002	0.000000E+000	7.977152E-004
Sr-90	4.748459E+004	8.289103E+003	9.848656E+004	4.091919E+001	4.951142E+001	0.000000E+000	9.003613E-005
Sr-91	4.682181E+005	8.173620E+004	9.711190E+005	4.034849E+002	4.882075E+002	0.000000E+000	8.878307E-004
Sr-92	3.372590E+005	5.887873E+004	6.995001E+005	2.906395E+002	3.516645E+002	0.000000E+000	6.395730E-004
Y-90	4.792585E+002	8.366163E+001	9.940176E+002	4.129950E-001	4.997157E-001	0.000000E+000	9.087336E-007
Y-91	5.359455E+003	9.355684E+002	1.111591E+004	4.618437E+000	5.588218E+000	0.000000E+000	1.016213E-005
Y-92	3.825229E+003	6.677947E+002	7.933809E+003	3.296437E+000	3.988592E+000	0.000000E+000	7.253865E-006
Y-93	5.640952E+003	9.847316E+002	1.169975E+004	4.861062E+000	5.881774E+000	0.000000E+000	1.069629E-005
Zr-95	7.016074E+003	1.224755E+003	1.455186E+004	6.046005E+000	7.315548E+000	0.000000E+000	1.330327E-005
Zr-97	6.356152E+003	1.109572E+003	1.318313E+004	5.477361E+000	6.627488E+000	0.000000E+000	1.205226E-005
Nb-95	7.033295E+003	1.227761E+003	1.458758E+004	6.060846E+000	7.333505E+000	0.000000E+000	1.335933E-005
Mo-99	9.473856E+004	1.653801E+004	1.964948E+005	8.163977E+001	9.878249E+001	0.000000E+000	1.796360E-004
Te-99m	6.702970E+004	1.170146E+004	1.390246E+005	5.776293E+001	6.989169E+001	0.000000E+000	1.271041E-004
Ru-103	8.499815E+004	1.483763E+004	1.762925E+005	7.324599E+001	8.862622E+001	0.000000E+000	1.611661E-004
Ru-105	4.530763E+004	7.909529E+003	9.397138E+004	3.904415E+001	4.724236E+001	0.000000E+000	8.591591E-005
Ru-106	3.706580E+004	6.470356E+003	7.687721E+004	3.194094E+001	3.864791E+001	0.000000E+000	7.028093E-005
Rh-105	5.588037E+004	9.754772E+003	1.159000E+005	4.815428E+001	5.826569E+001	0.000000E+000	1.059566E-004
Sb-125	2.092693E+004	3.653089E+003	4.340400E+004	1.803349E+001	2.182017E+001	0.000000E+000	3.967981E-005
Sb-127	8.288711E+005	1.446915E+005	1.719140E+006	7.142690E+002	8.642513E+002	0.000000E+000	1.571639E-003
Sb-129	2.545721E+005	4.444167E+004	5.280015E+005	2.193793E+002	2.654429E+002	0.000000E+000	4.827402E-004
Te-127	1.044176E+005	1.822805E+004	2.165699E+005	8.998144E+001	1.088755E+002	0.000000E+000	1.979958E-004
Te-127m	1.617998E+004	2.824444E+003	3.355848E+004	1.394288E+001	1.687061E+001	0.000000E+000	3.067907E-005

Te-129	1.023815E+005	1.787598E+004	2.123468E+005	8.823382E+001	1.067586E+002	0.000000E+000	1.941921E-004
Te-129m	7.484118E+004	1.306458E+004	1.552261E+005	6.449336E+001	7.803570E+001	0.000000E+000	1.419074E-004
Te-131m	1.471313E+005	2.568403E+004	3.051612E+005	1.267888E+002	1.534118E+002	0.000000E+000	2.789808E-004
Te-132	1.446027E+006	2.524252E+005	2.999168E+006	1.246096E+003	1.507751E+003	0.000000E+000	2.741844E-003
Te-133m	1.692594E+005	2.955460E+004	3.510565E+005	1.458735E+002	1.764986E+002	0.000000E+000	3.210704E-004
Te-134	2.357474E+005	4.116773E+004	4.889576E+005	2.031826E+002	2.458369E+002	0.000000E+000	4.472527E-004
I-131E	1.864023E+005	1.504705E+004	3.866121E+005	1.620488E+002	9.791711E+000	7.726749E+000	6.413540E-004
I-1310	1.196992E+004	1.134020E+004	2.482649E+004	1.120035E+001	1.392215E+001	2.593703E-001	3.752574E-005
I-131P	5.224947E+006	9.403472E+005	1.083693E+007	5.259866E+003	6.230092E+003	1.530239E+002	1.296167E-002
I-132E	1.459579E+005	1.178330E+004	3.027274E+005	1.268936E+002	7.667449E+000	6.050470E+000	5.022801E-004
I-1320	9.373167E+003	8.881622E+003	1.944064E+004	8.770787E+000	1.090181E+001	2.031012E-001	2.938912E-005
I-132P	4.091287E+006	7.364006E+005	8.485632E+006	4.118822E+003	4.878505E+003	1.198261E+002	1.015110E-002
I-133E	3.509301E+005	2.832856E+004	7.278549E+005	3.050822E+002	1.843442E+001	1.454681E+001	1.207464E-003
I-1330	2.253525E+004	2.135008E+004	4.673977E+004	2.108648E+001	2.621062E+001	4.883049E-001	7.064909E-005
I-133P	9.836744E+006	1.770364E+006	2.040214E+007	9.902530E+003	1.172912E+004	2.880913E+002	2.440269E-002
I-134E	8.285487E+004	6.689929E+003	1.718471E+005	7.203750E+001	4.352787E+000	3.434833E+000	2.852023E-004
I-1340	5.321177E+003	5.043561E+003	1.103652E+004	4.979418E+000	6.188924E+000	1.152999E-001	1.668815E-005
I-134P	2.322487E+006	4.181047E+005	4.817011E+006	2.338295E+003	2.769512E+003	6.802491E+001	5.764030E-003
I-135E	2.831809E+005	2.286006E+004	5.873382E+005	2.461866E+002	1.487568E+001	1.173857E+001	9.743948E-004
I-1350	1.818487E+004	1.722922E+004	3.771677E+004	1.701590E+001	2.115069E+001	3.940382E+001	5.701242E-005
I-135P	7.937710E+006	1.428624E+006	1.646340E+007	7.990885E+003	9.464827E+003	2.324756E+002	1.969243E-002
Xe-133	5.373394E+007	4.451144E+007	1.114482E+008	4.501177E+004	5.694381E+004	3.389217E+002	1.317706E+001
Xe-135	1.847937E+007	1.530830E+007	3.832757E+007	1.548181E+004	1.958327E+004	1.165569E+002	4.531813E+000
Cs-134	1.337799E+006	2.424363E+005	2.774695E+006	1.391481E+003	1.641363E+003	4.822071E+001	3.499166E-003
Cs-136	3.907734E+005	7.081610E+004	8.104929E+005	4.064541E+002	4.794450E+002	1.408535E+001	1.022113E-003
Cs-137	6.852760E+005	1.241859E+005	1.421313E+006	7.127741E+002	8.407740E+002	2.470063E+001	1.792417E-003
Cs-138	6.024267E+005	1.092238E+005	1.249478E+006	6.267266E+002	7.392288E+002	2.171739E+001	1.576871E-003
Ba-139	2.741628E+005	4.786755E+004	5.686340E+005	2.362738E+002	2.858809E+002	0.000000E+000	5.199888E-004
Ba-140	7.390751E+005	1.290161E+005	1.532896E+006	6.368880E+002	7.706220E+002	0.000000E+000	1.401371E-003
La-140	7.376105E+003	1.287611E+003	1.529859E+004	6.356273E+000	7.690961E+000	0.000000E+000	1.398606E-005
La-141	4.873429E+003	8.507800E+002	1.010785E+004	4.199723E+000	5.081546E+000	0.000000E+000	9.241493E-006
La-142	2.694547E+003	4.704474E+002	5.588689E+003	2.322147E+000	2.809700E+000	0.000000E+000	5.110457E-006
Ce-141	1.717861E+004	2.998768E+003	3.562970E+004	1.480343E+001	1.791186E+001	0.000000E+000	3.257259E-005
Ce-143	1.572354E+004	2.744785E+003	3.261178E+004	1.354958E+001	1.639472E+001	0.000000E+000	2.981395E-005
Ce-144	1.346583E+004	2.350650E+003	2.792913E+004	1.160399E+001	1.404061E+001	0.000000E+000	2.553273E-005
Pr-143	6.396497E+003	1.116599E+003	1.326681E+004	5.512095E+000	6.669527E+000	0.000000E+000	1.212849E-005
Nd-147	2.855476E+003	4.984639E+002	5.922468E+003	2.460668E+000	2.977360E+000	0.000000E+000	5.414311E-006
Np-238	5.789677E+003	1.010674E+003	1.200822E+004	4.989184E+000	6.036812E+000	0.000000E+000	1.097796E-005
Np-239	2.414239E+005	4.214413E+004	5.007311E+005	2.080441E+002	2.517292E+002	0.000000E+000	4.577701E-004
Pu-238	7.139292E+001	1.246264E+001	1.480742E+002	6.152186E-002	7.444026E-002	0.000000E+000	1.353690E-007
Pu-239	5.146328E+000	8.983638E-001	1.067386E+001	4.434777E-003	5.365993E-003	0.000000E+000	9.758016E-009
Pu-240	7.794840E+000	1.360699E+000	1.616708E+001	6.717096E-003	8.127555E-003	0.000000E+000	1.477989E-008
Pu-241	2.090908E+003	3.649973E+002	4.336698E+003	1.801811E+000	2.180156E+000	0.000000E+000	3.964596E-006
Am-241	1.074474E+000	1.875646E-001	2.228539E+000	9.259134E-004	1.120337E-003	0.000000E+000	2.037324E-009
Cm-242	3.267455E+002	5.703802E+001	6.776943E+002	2.815684E-001	3.406923E-001	0.000000E+000	6.195462E-007
Cm-244	6.898880E+001	1.204297E+001	1.430879E+002	5.945015E-002	7.193352E-002	0.000000E+000	1.308105E-007

Time = 10080.000000 Seconds  
CPU ClockTime = 34.270000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	4.69607	22.52467	1.58937	6.28544	6.19812 ending at	10080.0 Sec
LPZ	0.68614	3.40267	0.24058	0.26272		
ContolRoom	0.07762	5.33874	0.35843	0.43606		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.236437E+002	1.404510E+001	1.977198E+001	2.355585E-001	1.463695E-001	0.000000E+000	6.469533E-007
Co-60	1.481491E+002	1.682875E+001	2.369066E+001	2.822447E-001	1.753790E-001	0.000000E+000	7.751754E-007
Br-82E	6.279914E+002	4.712686E+000	1.196495E+001	8.236143E-001	1.207433E-002	5.207245E-002	5.469138E-006
Br-820	8.060635E+001	1.462367E+002	9.749645E+001	1.021205E-001	1.027104E-001	1.747959E-003	4.076477E-007
Br-82P	1.513359E+004	1.721140E+003	2.422930E+003	3.215605E+001	1.961741E+001	1.031265E+000	9.333885E-005
Br-83E	5.290183E+003	3.970481E+001	1.008027E+002	6.938371E+000	1.017176E+001	4.386714E-001	4.607847E-005
Br-830	6.790525E+002	1.232223E+003	8.215331E+002	8.603515E-001	8.652699E-001	1.472525E-002	3.434648E-006
Br-83P	1.274854E+005	1.450140E+004	2.041393E+004	2.708962E+002	1.652624E+002	8.687639E+000	7.864106E-004
Br-84E	5.188615E+002	3.896207E+000	9.890565E+000	6.806145E-001	9.977888E-003	4.303030E-002	4.521957E-006
Br-840	6.661141E+001	1.209788E+002	8.065980E+001	8.441713E-002	8.488074E-002	1.444434E-003	3.371063E-007
Br-84P	1.250395E+004	1.423249E+003	2.003397E+003	2.657489E+001	1.621113E+001	8.521907E-001	7.717818E-005
Kr-85	3.883323E+005	6.767565E+005	4.511978E+005	4.602454E+002	4.646612E+002	2.451249E+000	1.667749E-001
Kr-85m	5.881865E+006	1.025177E+007	6.834950E+006	6.971372E+003	7.038036E+003	3.712783E+001	2.526270E+000
Kr-87	3.532741E+006	6.159352E+006	4.106540E+006	4.187536E+003	4.227244E+003	2.229965E+001	1.517650E+000
Kr-88	1.120800E+007	1.953638E+007	1.302511E+007	1.328438E+004	1.341117E+004	7.074784E+001	4.814096E+000
Rb-86	5.153399E+003	5.862488E+002	8.252913E+002	1.121118E+001	6.813996E+000	4.322021E-001	3.289611E-005
Sr-89	1.807318E+005	2.052994E+004	2.890101E+004	3.443195E+002	2.139505E+002	0.000000E+000	9.456617E-004
Sr-90	2.040804E+004	2.318218E+003	3.263470E+003	3.888018E+001	2.415906E+001	0.000000E+000	1.067831E-004
Sr-91	1.898265E+005	2.156403E+004	3.035660E+004	3.616508E+002	2.247187E+002	0.000000E+000	9.932903E-004
Sr-92	1.181351E+005	1.342156E+004	1.889387E+004	2.250745E+002	1.398528E+002	0.000000E+000	6.182224E-004
Y-90	2.042032E+002	2.319628E+001	3.265453E+001	3.890364E-001	2.417363E-001	0.000000E+000	1.068480E-006
Y-91	2.302496E+003	2.615482E+002	3.681944E+002	4.386577E+000	2.725697E+000	0.000000E+000	1.204758E-005
Y-92	1.405728E+003	1.597014E+002	2.248165E+002	2.678205E+000	1.664141E+000	0.000000E+000	7.356172E-006
Y-93	2.296149E+003	2.608386E+002	3.671937E+002	4.374539E+000	2.718205E+000	0.000000E+000	1.201485E-005
Zr-95	3.014304E+003	3.424050E+002	4.820204E+002	5.742672E+000	3.568337E+000	0.000000E+000	1.577205E-005
Zr-97	2.643103E+003	3.002468E+002	4.226712E+002	5.035520E+000	3.128924E+000	0.000000E+000	1.383011E-005
Nb-95	3.020798E+003	3.431427E+002	4.830589E+002	5.755043E+000	3.576024E+000	0.000000E+000	1.580603E-005
Mo-99	4.037622E+004	4.586500E+003	6.456639E+003	7.692249E+001	4.779747E+001	0.000000E+000	2.112658E-004
Tc-99m	2.627001E+004	2.984319E+003	4.201140E+003	5.004911E+001	3.109890E+001	0.000000E+000	1.374645E-004
Ru-103	3.650931E+004	4.147216E+003	5.838242E+003	6.955536E+001	4.321976E+001	0.000000E+000	1.910314E-004
Ru-105	1.718700E+004	1.952524E+003	2.748636E+003	3.274459E+001	2.034637E+001	0.000000E+000	8.993747E-005
Ru-106	1.592928E+004	1.809460E+003	2.547266E+003	3.034750E+001	1.885709E+001	0.000000E+000	8.334836E-005
Rh-105	2.364331E+004	2.685756E+003	3.780867E+003	4.504398E+001	2.798904E+001	0.000000E+000	1.237127E-004
SD-125	8.993840E+003	1.021640E+003	1.438214E+003	1.713452E+001	1.064692E+001	0.000000E+000	4.705937E-005
Sb-127	3.540988E+005	4.022345E+004	5.662452E+004	6.746086E+002	4.191828E+002	0.000000E+000	1.852795E-003

Sb-129	9.645989E+004	1.095831E+004	1.542639E+004	1.837749E+002	1.141915E+002	0.000000E+000	5.047631E-004
Te-127	4.230705E+004	4.806025E+003	6.765646E+003	8.060193E+001	5.008356E+001	0.000000E+000	2.213769E-004
Te-127m	6.952415E+003	7.897480E+002	1.111768E+003	1.324532E+001	8.230275E+000	0.000000E+000	3.637782E-005
Te-129	2.728577E+004	3.100669E+003	4.364786E+003	5.198892E+001	3.230323E+001	0.000000E+000	1.428198E-004
Te-129m	3.214339E+004	3.651277E+003	5.140083E+003	6.123767E+001	3.805138E+001	0.000000E+000	1.681872E-004
Te-131m	6.216192E+004	7.061276E+003	9.940494E+003	1.184276E+002	7.358752E+001	0.000000E+000	3.252601E-004
Te-132	6.170909E+005	7.009781E+004	9.868011E+004	1.175646E+003	7.305136E+002	0.000000E+000	3.228884E-003
Te-133m	3.990917E+004	4.535599E+003	6.384657E+003	7.604305E+001	4.724877E+001	0.000000E+000	2.089121E-004
Te-134	4.589673E+004	5.216875E+003	7.343552E+003	8.745563E+001	5.433905E+001	0.000000E+000	2.402886E-004
I-131E	9.291712E+004	6.972798E+002	1.770313E+003	1.218611E+002	1.786504E+000	7.704584E+000	8.092023E-004
I-1310	1.192643E+004	2.163673E+004	1.442526E+004	1.510958E+001	1.519690E+001	2.586262E-001	6.031458E-005
I-131P	2.239153E+006	2.546558E+005	3.584915E+005	4.757770E+003	2.902571E+003	1.525849E+002	1.381021E-002
I-132E	5.721788E+004	4.294449E+002	1.090274E+003	7.504461E+001	1.100166E+000	4.744618E+000	4.983855E-004
I-1320	7.344553E+003	1.332776E+004	8.885724E+003	9.305497E+000	9.358663E+000	1.592666E-001	3.714906E-005
I-132P	1.378865E+006	1.568466E+005	2.207961E+005	2.929984E+003	1.787459E+003	9.396447E+001	8.505784E-003
I-133E	1.708200E+005	1.281907E+003	3.254602E+003	2.240318E+002	3.284345E+000	1.416425E+001	1.487672E-003
I-1330	2.192578E+004	3.977840E+004	2.652039E+004	2.777796E+001	2.793832E+001	4.754634E-001	1.108853E-004
I-133P	4.116489E+006	4.681715E+005	6.590667E+005	8.746794E+003	5.336143E+003	2.805150E+002	2.538932E-002
I-134E	2.200905E+004	1.652271E+002	4.194553E+002	2.886817E+001	4.232113E-001	1.825142E+000	1.917573E-004
I-1340	2.825308E+003	5.129043E+003	3.419621E+003	3.580076E+000	3.600146E+000	6.126608E-002	1.429429E-005
I-134P	5.303886E+005	6.035086E+004	8.495425E+004	1.127137E+003	6.875963E+002	3.614591E+001	3.272731E-003
I-135E	1.301109E+005	9.764431E+002	2.479048E+003	1.706433E+002	2.501660E+000	1.078879E+001	1.133182E-003
I-1350	1.670070E+004	3.030076E+004	2.020165E+004	2.115864E+001	2.128045E+001	3.621562E-001	8.446381E-005
I-135P	3.135469E+006	3.566159E+005	5.020221E+005	6.662392E+003	4.064496E+003	2.136658E+002	1.933948E-002
Xe-133	5.345673E+007	9.316081E+007	6.211089E+007	6.335617E+004	6.396397E+004	3.374320E+002	2.295783E+001
Xe-135	1.737397E+007	3.027994E+007	2.018786E+007	2.059176E+004	2.078900E+004	1.096688E+002	7.461819E+000
Cs-134	5.749463E+005	6.540562E+004	9.207473E+004	1.250791E+003	7.602130E+002	4.821923E+001	3.670098E-003
Cs-136	1.676534E+005	1.907220E+004	2.684887E+004	3.647286E+002	2.216769E+002	1.406065E+001	1.070196E-003
Cs-137	2.945196E+005	3.350441E+004	4.716581E+004	6.407248E+002	3.894235E+002	2.470058E+001	1.880029E-003
Cs-138	9.216569E+004	1.049343E+004	1.477080E+004	2.005534E+002	1.218831E+002	7.730777E+000	5.887721E-004
Ba-139	7.921512E+004	9.001175E+003	1.267097E+004	1.509297E+002	9.378052E+001	0.000000E+000	4.146051E-004
Ba-140	3.170673E+005	3.601678E+004	5.070260E+004	6.040578E+002	3.753447E+002	0.000000E+000	1.659025E-003
La-140	3.126791E+003	3.551865E+002	5.000131E+002	5.956993E+000	3.701506E+000	0.000000E+000	1.636079E-005
La-141	1.817004E+003	2.064231E+002	2.905885E+002	3.461760E+000	2.151017E+000	0.000000E+000	9.508278E-006
La-142	8.079982E+002	9.180971E+001	1.292411E+002	1.539477E+000	9.565607E-001	0.000000E+000	4.228879E-006
Ce-141	7.377835E+003	8.380733E+002	1.179797E+003	1.405581E+001	8.733889E+000	0.000000E+000	3.860381E-005
Ce-143	6.645553E+003	7.549007E+002	1.062710E+003	1.266076E+001	7.867032E+000	0.000000E+000	3.477262E-005
Ce-144	5.786921E+003	6.573556E+002	9.253921E+002	1.102489E+001	6.850562E+000	0.000000E+000	3.027949E-005
Pr-143	2.744433E+003	3.117497E+002	4.388655E+002	5.228531E+000	3.248863E+000	0.000000E+000	1.435999E-005
Nd-147	1.224657E+003	1.391131E+002	1.958364E+002	2.333144E+000	1.449751E+000	0.000000E+000	6.407907E-006
Np-238	2.461307E+003	2.795905E+002	3.935930E+002	4.689145E+000	2.913702E+000	0.000000E+000	1.287864E-005
Np-239	1.027473E+005	1.167150E+004	1.643054E+004	1.957485E+002	1.216326E+002	0.000000E+000	5.376191E-004
Pu-238	3.068347E+001	3.485437E+000	4.906623E+000	5.845630E-002	3.632312E-002	0.000000E+000	1.605482E-007
Pu-239	2.211806E+000	2.512464E-001	3.536921E-001	4.213800E-003	2.618338E-003	0.000000E+000	1.157306E-008
Pu-240	3.350093E+000	3.805482E-001	5.357166E-001	6.382396E-003	3.965843E-003	0.000000E+000	1.752903E-008
Pu-241	8.986335E+002	1.020788E+002	1.437013E+002	1.712022E+000	1.063803E+000	0.000000E+000	4.702010E-006
Am-241	4.617912E-001	5.245640E-002	7.384547E-002	8.797768E-004	5.466688E-004	0.000000E+000	2.416276E-009
Cm-242	1.404098E+002	1.594962E+001	2.245308E+001	2.675004E-001	1.662173E-001	0.000000E+000	7.346807E-007
Cm-244	2.965014E+001	3.368058E+000	4.741382E+000	5.648766E-002	3.509986E-002	0.000000E+000	1.551414E-007

Time = 10800.000000 Seconds

CPU ClockTime = 36.200000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	5.40291	25.10376	1.76431	7.16721	6.93431 ending at	10800.0 Sec
LPZ	0.75683	3.66058	0.25807	1.01490		
ContolRoom	0.09328	6.14821	0.41158	0.50485		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.000961E+002	6.378435E+000	8.979121E+000	2.180971E-001	1.214391E-001	0.000000E+000	6.408588E-007
Co-60	1.199439E+002	7.643201E+000	1.075957E+001	2.613431E-001	1.455190E-001	0.000000E+000	7.679333E-007
Br-82E	5.259509E+002	9.536155E+000	7.077321E+000	7.409195E-001	1.011241E-002	5.186837E-002	5.530908E-006
Br-820	8.027505E+001	1.456623E+002	9.710868E+001	1.064065E-001	1.041483E-001	1.741109E-003	4.463985E-007
Br-82P	1.220442E+004	7.786401E+002	1.096114E+003	2.951121E+001	1.608479E+001	1.027224E+000	9.086286E-005
Br-83E	4.198380E+003	7.613413E+001	5.650316E+001	5.914585E+000	8.072487E-002	4.140507E-001	4.415682E-005
Br-830	6.408173E+002	1.163106E+003	7.754134E+002	8.494860E-001	8.314000E-001	1.389879E-002	3.564039E-006
Br-83P	9.742160E+004	6.216805E+003	8.751416E+003	2.355847E+002	1.284008E+002	8.200039E+000	7.254264E-004
Br-84E	3.358552E+002	6.094147E+000	4.522701E+000	4.732141E-001	6.458613E-003	3.312670E-002	3.534381E-006
Br-840	5.127068E+001	9.315418E+001	6.210532E+001	6.798620E-002	6.652140E-002	1.111992E-003	2.853171E-007
Br-84P	7.793484E+003	4.977294E+002	7.006059E+002	1.884979E+001	1.027300E+001	6.560555E-001	5.806709E-005
Kr-85	3.882573E+005	6.767486E+005	4.511679E+005	4.843058E+002	4.756476E+002	2.451245E+000	1.858251E-001
Kr-85m	5.701549E+006	9.939555E+006	6.626430E+006	7.112351E+003	6.984941E+003	3.599654E+001	2.729085E+000
Kr-87	3.166812E+006	5.522856E+006	3.681978E+006	3.950878E+003	3.879738E+003	1.999363E+001	1.516162E+000
Kr-88	1.067200E+007	1.860621E+007	1.240429E+007	1.331305E+004	1.307428E+004	6.737734E+001	5.108489E+000
Rb-86	4.170997E+003	2.661781E+002	3.747071E+002	1.031595E+001	5.597929E+000	4.320682E-001	3.205643E-005
Sr-89	1.463072E+005	9.323153E+003	1.312449E+004	3.187855E+002	1.775035E+002	0.000000E+000	9.367226E-004
Sr-90	1.652273E+004	1.052880E+003	1.482171E+003	3.600100E+001	2.004579E+001	0.000000E+000	1.057857E-004
Sr-91	1.514607E+005	9.652102E+003	1.358749E+004	3.300188E+002	1.837575E+002	0.000000E+000	9.697587E-004
Sr-92	9.087478E+004	5.791994E+003	8.153425E+003	1.980145E+002	1.102550E+002	0.000000E+000	5.819074E-004
Y-90	1.649695E+002	1.051246E+001	1.479870E+001	3.594491E-001	2.001454E-001	0.000000E+000	1.056213E-006
Y-91	1.863960E+003	1.187774E+002	1.672066E+002	4.061341E+000	2.261403E+000	0.000000E+000	1.193389E-005
Y-92	1.094396E+003	6.974912E+001	9.818668E+001	2.384643E+000	1.327781E+000	0.000000E+000	7.007608E-006
Y-93	1.833910E+003	1.168687E+002	1.645190E+002	3.995917E+000	2.224964E+000	0.000000E+000	1.174196E-005
Zr-95	2.440217E+003	1.554983E+002	2.188998E+002	5.316936E+000	2.960533E+000	0.000000E+000	1.562334E-005
Zr-97	2.122321E+003	1.352453E+002	1.903885E+002	4.624313E+000	2.574866E+000	0.000000E+000	1.358835E-005
Nb-95	2.445291E+003	1.558217E+002	2.193550E+002	5.327990E+000	2.966688E+000	0.000000E+000	1.565582E-005
Mo-99	3.262069E+004	2.078710E+003	2.926262E+003	7.107665E+001	3.957630E+001	0.000000E+000	2.088532E-004
Tc-99m	2.078372E+004	1.324524E+003	1.864559E+003	4.528616E+001	2.521568E+001	0.000000E+000	1.330754E-004
Ru-103	2.955428E+004	1.883292E+003	2.651168E+003	6.439517E+001	3.585600E+001	0.000000E+000	1.892195E-004
Ru-105	1.348717E+004	8.595505E+002	1.210003E+003	2.938776E+001	1.636328E+001	0.000000E+000	8.635866E-005
Ru-106	1.289644E+004	8.218015E+002	1.156876E+003	2.809977E+001	1.564629E+001	0.000000E+000	8.256864E-005

Rh-105	1.906725E+004	1.215044E+003	1.710452E+003	4.154537E+001	2.313292E+001	0.000000E+000	1.220783E-004
Sb-125	7.281539E+003	4.640024E+002	6.531906E+002	1.586558E+001	8.834146E+000	0.000000E+000	4.661959E-005
Sb-127	2.862541E+005	1.824111E+004	2.567857E+004	6.237136E+002	3.472910E+002	0.000000E+000	1.832732E-003
Sb-129	7.567356E+004	4.822755E+003	6.789068E+003	1.648883E+002	9.181082E+001	0.000000E+000	4.845399E-004
Te-127	3.375113E+004	2.150853E+003	3.027807E+003	7.354061E+001	4.094809E+001	0.000000E+000	2.160988E-004
Te-127m	5.628507E+003	3.586661E+002	5.049054E+002	1.226383E+001	6.828646E+000	0.000000E+000	3.603616E-005
Te-129	1.960266E+004	1.249732E+003	1.759214E+003	4.271658E+001	2.378417E+001	0.000000E+000	1.255488E-004
Te-129m	2.601942E+004	1.658040E+003	2.334074E+003	5.669315E+001	3.156742E+001	0.000000E+000	1.665878E-004
Te-131m	5.011258E+004	3.193384E+003	4.495419E+003	1.091896E+002	6.079800E+001	0.000000E+000	3.208466E-004
Te-132	4.987240E+005	3.178047E+004	4.473833E+004	1.086660E+003	6.050651E+002	0.000000E+000	3.193065E-003
Te-133m	2.780662E+004	1.772975E+003	2.495742E+003	6.059575E+001	3.373877E+001	0.000000E+000	1.781086E-004
Te-134	3.048272E+004	1.943973E+003	2.736404E+003	6.643045E+001	3.698686E+001	0.000000E+000	1.952772E-004
I-131E	7.806936E+004	1.415483E+003	1.050510E+003	1.099779E+002	1.501029E+000	7.699051E+000	8.209713E-004
I-131O	1.191558E+004	2.162094E+004	1.441402E+004	1.579431E+001	1.545917E+001	2.584405E-001	6.626027E-005
I-131P	1.811559E+006	1.155757E+005	1.626995E+005	4.380473E+003	2.387536E+003	1.524753E+002	1.348707E-002
I-132E	4.527125E+004	8.209639E+002	6.092805E+002	6.377727E+001	8.704604E-001	4.464729E+000	4.761482E-004
I-132O	6.909966E+003	1.254202E+004	8.361455E+003	9.160092E+000	8.965034E+000	1.498713E-001	3.843155E-005
I-132P	1.050500E+006	6.703681E+004	9.436782E+004	2.540324E+003	1.384552E+003	8.842143E+001	7.822365E-003
I-133E	1.426727E+005	2.586858E+003	1.919854E+003	2.009869E+002	2.743160E+000	1.407016E+001	1.500360E-003
I-133O	2.177596E+004	3.951390E+004	2.634274E+004	2.886468E+001	2.825198E+001	4.723050E-001	1.210940E-004
I-133P	3.310648E+006	2.112211E+005	2.973419E+005	8.005418E+003	4.363270E+003	2.786516E+002	2.464823E-002
I-134E	1.579873E+004	2.865824E+002	2.126859E+002	2.225849E+001	3.037933E-001	1.558191E+000	1.662107E-004
I-134O	2.411606E+003	4.379375E+003	2.919660E+003	3.197366E+000	3.128890E+000	5.230510E-002	1.341646E-005
I-134P	3.666053E+005	2.340361E+004	3.294419E+004	8.860676E+002	4.832115E+002	3.085909E+001	2.730643E-003
I-135E	1.071142E+005	1.942214E+003	1.441425E+003	1.586961E+002	2.059498E+000	1.056353E+001	1.126468E-003
I-135O	1.634887E+004	2.966826E+004	1.977898E+004	2.167137E+001	2.121097E+001	3.545947E-001	9.091822E-005
I-135P	2.485531E+006	1.585873E+005	2.232466E+005	6.010300E+003	3.275836E+003	2.092046E+002	1.850591E-002
Xe-133	5.338762E+007	9.305736E+007	6.203855E+007	6.659496E+004	6.540433E+004	3.370604E+002	2.555211E+001
Xe-135	1.710801E+007	2.982222E+007	1.988162E+007	2.134075E+004	2.095885E+004	1.080108E+002	8.188489E+000
Cs-134	4.654838E+005	2.970547E+004	4.181732E+004	1.151261E+003	6.247295E+002	4.821886E+001	3.577499E-003
Cs-136	1.356758E+005	8.658347E+003	1.218862E+004	3.355611E+002	1.820916E+002	1.405448E+001	1.042744E-003
Cs-137	2.384485E+005	1.521691E+004	2.142132E+004	5.897443E+002	3.200236E+002	2.470057E+001	1.832608E-003
Cs-138	5.763214E+004	3.681627E+003	5.182279E+003	1.425736E+002	7.736050E+001	5.970876E+000	4.432714E-004
Ba-139	5.807125E+004	3.701931E+003	5.211145E+003	1.265419E+002	7.045775E+001	0.000000E+000	3.719059E-004
Ba-140	2.565874E+005	1.635058E+004	2.301721E+004	5.590728E+002	3.112983E+002	0.000000E+000	1.642786E-003
La-140	2.522809E+003	1.607635E+002	2.263115E+002	5.496911E+000	3.060742E+000	0.000000E+000	1.615229E-005
La-141	1.419708E+003	9.048093E+001	1.273712E+002	3.093474E+000	1.722463E+000	0.000000E+000	9.090540E-006
La-142	5.978554E+002	3.811075E+001	5.364802E+001	1.302764E+000	7.253729E-001	0.000000E+000	3.828743E-006
Ce-141	5.972172E+003	3.805657E+002	5.357341E+002	1.301264E+001	7.245590E+000	0.000000E+000	3.823647E-005
Ce-143	5.357891E+003	3.414272E+002	4.806370E+002	1.167424E+001	6.500345E+000	0.000000E+000	3.430398E-005
Ce-144	4.685104E+003	2.985495E+002	4.202774E+002	1.020827E+001	5.684086E+000	0.000000E+000	2.999608E-005
Pr-143	2.220999E+003	1.415292E+002	1.992351E+002	4.839288E+000	2.694572E+000	0.000000E+000	1.421982E-005
Nd-147	9.909840E+002	6.314873E+001	8.889641E+001	2.159234E+000	1.202287E+000	0.000000E+000	6.344722E-006
Np-238	1.987290E+003	1.266377E+002	1.782717E+002	4.330074E+000	2.411034E+000	0.000000E+000	1.272360E-005
Np-239	8.298239E+004	5.287948E+003	7.444003E+003	1.808089E+002	1.006765E+002	0.000000E+000	5.312933E-004
Pu-238	2.484191E+001	1.583004E+000	2.228444E+000	5.412748E-002	3.013883E-002	0.000000E+000	1.590487E-007
Pu-239	1.790720E+000	1.141103E-001	1.606365E-001	3.901760E-003	2.172546E-003	0.000000E+000	1.146497E-008
Pu-240	2.712298E+000	1.728361E-001	2.433067E-001	5.909766E-003	3.290628E-003	0.000000E+000	1.736532E-008
Pu-241	7.275497E+002	4.636174E+001	6.526486E+001	1.585242E+000	8.826816E-001	0.000000E+000	4.658091E-006
Am-241	3.738748E+001	2.382447E-002	3.353845E-002	8.146275E-004	4.535943E-004	0.000000E+000	2.393710E-009
Cm-242	1.136744E+002	7.243690E+000	1.019717E+001	2.476827E-001	1.379127E-001	0.000000E+000	7.277933E-007
Cm-244	2.400529E+001	1.529692E+000	2.153395E+000	5.230459E-002	2.912382E-002	0.000000E+000	1.536923E-007

Time = 18000.000000 Seconds  
CPU ClockTime = 57.070000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	11.89834	40.28563	2.75759	14.65593	8.50867 ending at	14038.0 Sec
LPZ	1.40637	5.17877	0.35740	1.76377		
ContolRoom	0.27891	12.12161	0.78938	1.06829		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.210231E+001	2.992179E+000	2.153595E+000	7.233529E-002	1.713730E-002	0.000000E+000	3.145920E-007
Co-60	1.451345E+001	3.588308E+000	2.582653E+000	8.674666E-002	2.055157E-002	0.000000E+000	3.772681E-007
Br-82E	8.930185E+001	9.581576E+000	6.387721E+000	2.209701E-001	1.716998E-003	4.987111E-002	4.005532E-006
Br-82O	7.703604E+001	1.400133E+002	9.334225E+001	1.262546E-001	1.122494E-001	1.674065E-003	7.594936E-007
Br-82P	1.419937E+003	3.514994E+002	2.529887E+002	9.156043E+000	2.083446E+000	9.876691E-001	4.048555E-005
Br-83E	4.160948E+002	4.467154E+001	2.978126E+001	1.029637E+000	8.000514E-003	2.323781E-001	1.866626E-005
Br-83O	3.589573E+002	6.528769E+002	4.352548E+002	5.884230E-001	5.230507E-001	7.800430E-003	3.539805E-006
Br-83P	6.616107E+003	1.638861E+003	1.179562E+003	4.266456E+001	9.708027E+000	4.602117E+000	1.886714E-004
Br-84E	4.336693E+000	4.666482E-001	3.111101E-001	1.073302E-002	8.339613E-005	2.422233E-003	1.946576E-007
Br-84O	3.741741E+000	6.824139E+000	4.549591E+000	6.138680E-003	5.452763E-003	8.130912E-005	3.693287E-006
Br-84P	6.895647E+001	1.712341E+001	1.232471E+001	4.447729E-001	1.011955E-001	4.797095E-002	1.967673E-008
Kr-85	3.875075E+005	6.765230E+005	4.510153E+005	6.150329E+002	5.509263E+002	2.451209E+000	3.514706E-001
Kr-85m	4.176105E+006	7.293770E+006	4.862535E+006	6.628922E+003	5.937341E+003	2.641632E+001	3.788281E+000
Kr-87	1.061026E+006	1.850507E+006	1.236723E+006	1.684738E+003	1.508567E+003	6.711641E+000	9.628379E-001
Kr-88	6.537619E+006	1.142098E+007	7.614035E+006	1.037820E+004	9.294891E+003	4.135432E+001	5.930975E+000
Rb-86	5.031533E+002	1.245821E+002	8.966690E+001	3.299126E+000	7.442143E+001	4.307321E-001	1.463813E-005
Sr-89	1.768376E+004	4.372140E+003	3.146810E+003	1.056955E+002	2.504084E+001	0.000000E+000	4.596784E-004
Sr-90	1.999332E+003	4.943150E+002	3.557789E+002	1.194997E+001	2.831126E+000	0.000000E+000	5.197138E-005
Sr-91	1.583911E+004	3.916756E+003	2.819055E+003	9.467161E+001	2.242896E+001	0.000000E+000	4.117463E-004
Sr-92	6.593054E+003	1.631080E+003	1.173961E+003	3.940883E+001	9.336315E+000	0.000000E+000	1.714095E-004
Y-90	1.953501E+001	4.829965E+000	3.476326E+000	1.167607E-001	2.766232E-002	0.000000E+000	5.078038E-007
Y-91	2.253270E+002	5.570993E+001	4.009674E+001	1.346776E+000	3.190711E-001	0.000000E+000	5.857236E-006
Y-92	8.951725E+001	2.214278E+001	1.593713E+001	5.350666E-001	1.267629E-001	0.000000E+000	2.327228E-006
Y-93	1.937127E+002	4.790146E+001	3.447670E+001	1.157835E+000	2.743066E-001	0.000000E+000	5.035653E-006
Zr-95	2.950137E+002	7.293930E+001	5.249742E+001	1.763292E+000	4.177500E-001	0.000000E+000	7.668698E-006
Zr-97	2.364720E+002	5.847121E+001	4.208418E+001	1.413402E+000	3.348546E-001	0.000000E+000	6.147098E-006
Nb-95	2.954056E+002	7.303625E+001	5.256720E+001	1.765634E+000	4.183050E-001	0.000000E+000	7.678886E-006
Mo-99	3.865171E+003	9.556495E+002	6.878206E+002	2.310211E+001	5.473228E+000	0.000000E+000	1.004773E-004
Tc-99m	1.996882E+003	4.938477E+002	3.554433E+002	1.193564E+001	2.827700E+000	0.000000E+000	5.191141E-005

Ru-103	3.570978E+003	8.828904E+002	6.354527E+002	2.134367E+001	5.056633E+000	0.000000E+000	9.282536E-005
Ru-105	1.194338E+003	2.954003E+002	2.126124E+002	7.138789E+000	1.691260E+000	0.000000E+000	3.104908E-005
Ru-106	1.560300E+003	3.857688E+002	2.776537E+002	9.325886E+000	2.209441E+000	0.000000E+000	4.055902E-005
Rh-105	2.218638E+003	5.485622E+002	3.948230E+002	1.326082E+001	3.141678E+000	0.000000E+000	5.767279E-005
Sb-125	8.810568E+002	2.178326E+002	1.567831E+002	5.266061E+000	1.247608E+000	0.000000E+000	2.290252E-005
Sb-127	3.412122E+004	8.436286E+003	6.071944E+003	2.039423E+002	4.831691E+001	0.000000E+000	8.869637E-004
Sb-129	6.682176E+003	1.652734E+003	1.189544E+003	3.994066E+001	9.462397E+000	0.000000E+000	1.737160E-004
Te-127	3.524074E+003	8.714484E+002	6.272182E+002	2.106368E+001	4.990263E+000	0.000000E+000	9.161028E-005
Te-127m	6.807202E+002	1.683014E+002	1.211335E+002	4.068653E+000	9.639243E-001	0.000000E+000	1.769490E-005
Te-129	7.179652E+002	1.777677E+002	1.279481E+002	4.291841E+000	1.016744E+000	0.000000E+000	1.866998E-005
Te-129m	3.143088E+003	7.770990E+002	5.593103E+002	1.878619E+001	4.450726E+000	0.000000E+000	8.170265E-005
Te-131m	5.809921E+003	1.436520E+003	1.033923E+003	3.472596E+001	8.227080E+000	0.000000E+000	1.510272E-004
Te-132	5.928854E+004	1.465882E+004	1.055056E+004	3.543673E+002	8.395480E+001	0.000000E+000	1.541177E-003
Te-133m	7.497273E+002	1.857010E+002	1.336584E+002	4.481862E+000	1.061746E+000	0.000000E+000	1.949778E-005
Te-134	5.090655E+002	1.261646E+002	9.080742E+001	3.043352E+000	7.209490E-001	0.000000E+000	1.324098E-005
I-131E	1.368766E+004	1.468555E+003	9.790368E+002	3.386891E+001	2.631708E-001	7.643936E+000	6.139389E-004
I-1310	1.180761E+004	2.145945E+004	1.430630E+004	1.935127E+001	1.720486E+001	2.565904E-001	1.164088E-004
I-131P	2.176396E+005	5.387366E+004	3.877510E+004	1.403379E+003	3.193377E+002	1.513838E+002	6.205325E-003
I-132E	4.352412E+003	4.672867E+002	3.115271E+002	1.077018E+001	8.368671E-002	2.430713E+000	1.952535E-004
I-1320	3.754754E+003	6.829480E+003	4.553025E+003	6.155077E+000	5.471206E+000	8.159378E-002	3.702747E-005
I-132P	6.920545E+004	1.714336E+004	1.233885E+004	4.462791E+002	1.015476E+002	4.813889E+001	1.973549E-003
I-133E	2.357028E+004	2.529033E+003	1.686024E+003	5.832284E+001	4.531843E-001	1.316297E+001	1.057226E-003
I-1330	2.033289E+004	3.695646E+004	2.463766E+004	3.332399E+001	2.962713E+001	4.418525E-001	2.004632E-004
I-133P	3.747774E+005	9.277765E+004	6.677594E+004	2.416648E+003	5.499046E+002	2.606852E+002	1.068583E-002
I-134E	5.738926E+002	6.168192E+001	4.112218E+001	1.420226E+000	1.103536E-002	3.205238E-001	2.575240E-005
I-1340	4.951227E+002	9.017482E+002	6.011786E+002	8.119592E-001	7.214970E-001	1.075929E-002	4.884811E-006
I-134P	9.125230E+003	2.263149E+003	1.628904E+003	5.885144E+001	1.339062E+001	6.347792E+000	2.603050E-004
I-135E	1.531715E+004	1.643759E+003	1.095842E+003	3.790155E+001	2.945049E-001	8.554037E+000	6.870661E-004
I-1350	1.321347E+004	2.402106E+004	1.601409E+004	2.165708E+001	1.925353E+001	2.871405E-001	1.302810E-004
I-135P	2.435494E+005	6.030221E+004	4.340207E+004	1.570486E+003	3.573594E+002	1.694079E+002	6.944504E-003
Xe-133	5.270149E+007	9.200929E+007	6.133954E+007	8.364558E+004	7.492669E+004	3.333674E+002	4.780068E+001
Xe-135	1.466243E+007	2.560332E+007	1.706892E+007	2.327290E+004	2.084601E+004	9.274845E+001	1.329981E+001
Cs-134	5.632185E+004	1.394539E+004	1.003707E+004	3.692966E+002	8.330565E+001	4.821517E+001	1.638558E-003
Cs-136	1.634563E+004	4.047229E+003	2.912958E+003	1.071767E+002	2.417683E+001	1.399293E+001	4.755400E-004
Cs-137	2.885346E+004	7.144167E+003	5.141952E+003	1.891892E+002	4.267716E+001	2.470044E+001	8.394265E-004
Cs-138	5.267681E+002	1.308388E+002	9.417222E+001	3.454956E+000	7.792739E-001	4.510110E-001	1.533741E-005
Ba-139	2.603105E+003	6.443687E+002	4.637828E+002	1.556045E+001	3.686331E+000	0.000000E+000	6.768695E-005
Ba-140	3.090817E+004	7.641781E+003	5.500106E+003	1.847377E+002	4.376710E+001	0.000000E+000	8.034396E-004
Nd-140	2.949444E+002	7.292513E+001	5.248724E+001	1.762884E+000	4.176528E-001	0.000000E+000	7.666976E-006
La-141	1.204011E+002	2.978082E+001	2.143455E+001	7.196637E-001	1.704962E-001	0.000000E+000	3.130095E-006
La-142	2.940720E+001	7.278594E+000	5.238746E+000	1.757841E-001	4.164412E-002	0.000000E+000	7.646354E-007
Ce-141	7.213832E+002	1.783552E+002	1.283696E+002	4.311696E+000	1.021505E+000	0.000000E+000	1.875191E-005
Ce-143	6.217580E+002	1.537313E+002	1.106468E+002	3.716254E+000	8.804340E-001	0.000000E+000	1.616242E-005
Ce-144	5.668090E+002	1.401379E+002	1.008631E+002	3.387807E+000	8.026218E-001	0.000000E+000	1.473384E-005
Pr-143	2.676119E+002	6.616472E+001	4.762148E+001	1.599512E+000	3.789481E-001	0.000000E+000	6.956411E-006
Nd-147	1.192855E+002	2.949234E+001	2.122685E+001	7.129676E-001	1.689126E-001	0.000000E+000	3.100756E-006
Np-238	2.340007E+002	5.785627E+001	4.164156E+001	1.398622E+000	3.313540E-001	0.000000E+000	6.082753E-006
Np-239	9.798044E+003	2.422541E+003	1.743603E+003	5.856290E+001	1.387440E+001	0.000000E+000	2.546959E-004
Pu-238	3.006006E+000	7.432050E-001	5.349153E-001	1.796684E-002	4.256611E-003	0.000000E+000	7.813922E-008
Pu-239	2.166872E-001	5.357375E-002	3.855924E-002	1.295135E-003	3.068368E-004	0.000000E+000	5.632647E-009
Pu-240	3.282033E-001	8.114502E-002	5.840342E-002	1.961666E-003	4.647477E-004	0.000000E+000	8.531439E-009
Pu-241	8.803665E+001	2.176619E+001	1.566602E+001	5.261935E-001	1.246630E-001	0.000000E+000	2.288457E-006
Am-241	4.524094E-002	1.118537E-002	8.050575E-003	2.704043E-004	6.406279E-005	0.000000E+000	1.176010E-009
Cm-242	1.375037E+001	3.399643E+000	2.446863E+000	8.218569E-002	1.947101E-002	0.000000E+000	3.574321E-007
Cm-244	2.904750E+000	7.181705E-001	5.168970E-001	1.730164E-002	4.113230E-003	0.000000E+000	7.550714E-008

Time = 25200.000000 Seconds  
CPU ClockTime = 77.500000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	16.76181	44.69124	3.03566	19.79747	8.50867 ending at	14038.0 Sec
LPZ	1.89272	5.61933	0.38520	2.27792		
ContolRoom	0.46196	14.42747	0.92791	1.38987		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.362424E+000	9.898658E-001	7.124473E-001	2.026473E-002	5.094835E-003	0.000000E+000	9.827446E-008
Co-60	4.035490E+000	1.188008E+000	8.550586E-001	2.432117E-002	6.114683E-003	0.000000E+000	1.179463E-007
Br-82E	1.516267E+001	9.209973E+000	6.139985E+000	5.800824E-002	2.915312E-004	4.795076E-002	2.025720E-006
Br-820	7.392771E+001	1.345831E+002	8.972215E+001	1.286525E-001	1.134975E-001	1.609603E-003	9.142981E-007
Br-82P	3.796244E+002	1.118995E+002	8.053872E+001	2.426190E+000	5.847368E-001	9.496375E-001	1.190282E-005
Br-83E	4.123850E+001	2.507508E+001	1.671685E+001	1.577798E-001	7.929183E-004	1.304178E-001	5.510281E-006
Br-830	2.010719E+002	3.664736E+002	2.443177E+002	3.500414E-001	3.087055E-001	4.377844E-003	2.487646E-006
Br-83P	1.032483E+003	3.046760E+002	2.192890E+002	6.599136E+000	1.590395E+000	2.582851E+000	3.237847E-005
Br-84E	5.599707E-002	3.418490E-002	2.279076E-002	2.143111E-004	1.076843E-006	1.771143E-004	7.486713E-009
Br-840	2.730727E-001	4.999109E-001	3.332860E-001	4.760375E-004	4.192989E-004	5.945344E-006	3.383055E-009
Br-84P	1.402011E+000	4.154598E-001	2.990304E-001	8.963603E-003	2.159898E-003	3.507648E-003	4.399664E-008
Kr-85	3.867592E+005	6.762962E+005	4.508642E+005	6.584123E+002	5.870749E+002	2.451173E+000	4.503261E-001
Kr-85m	3.058792E+006	5.352250E+006	3.568182E+006	5.208296E+003	4.643133E+002	1.938581E+001	3.562264E+000
Kr-87	3.554922E+005	6.230887E+005	4.153988E+005	6.056188E+002	5.396501E+002	2.253023E+000	4.142219E-001
Kr-88	4.004918E+006	7.010477E+006	4.673683E+006	6.820093E+003	6.079384E+003	2.538212E+001	4.664677E+000
Rb-86	1.394742E+002	4.112014E+001	2.959586E+001	9.030988E-001	2.156390E-001	4.294001E-001	4.441485E-006
Sr-89	4.911528E+003	1.445908E+003	1.040680E+003	2.960090E+001	7.442079E+000	0.000000E+000	1.435505E-004
Sr-90	5.559313E+002	1.636606E+002	1.177933E+002	3.350498E+000	8.423620E-001	0.000000E+000	1.624835E-005
Sr-91	3.806226E+003	1.120851E+003	8.067241E+002	2.293992E+001	5.767351E+000	0.000000E+000	1.112510E-004
Sr-92	1.099165E+003	3.239240E+002	2.331425E+002	6.624963E+000	1.665542E+000	0.000000E+000	3.213107E-005
Y-90	5.315656E+000	1.564946E+000	1.126356E+000	3.203660E-002	8.054435E-003	0.000000E+000	1.553632E-007
Y-91	6.259260E+001	1.842668E+001	1.326244E+001	3.772344E-001	9.484199E-002	0.000000E+000	1.829411E-006
Y-92	1.682565E+001	4.957298E+000	3.567984E+000	1.014110E-001	2.549535E-002	0.000000E+000	4.918320E-007
Y-93	4.701877E+001	1.384573E+001	9.965354E+000	2.833793E-001	7.124474E-002	0.000000E+000	1.374292E-006
Zr-95	8.195755E+001	2.412753E+001	1.736558E+001	4.939443E-001	1.241843E-001	0.000000E+000	2.395395E-006
Zr-97	6.054543E+001	1.782700E+001	1.283084E+001	3.649008E-001	9.174056E-002	0.000000E+000	1.769626E-006

Nb-95	8.200493E+001	2.414151E+001	1.737564E+001	4.942290E-001	1.242561E-001	0.000000E+000	2.396780E-006
Mo-99	1.052391E+003	3.098269E+002	2.229952E+002	6.342591E+000	1.594613E+000	0.000000E+000	3.075872E-005
Tc-99m	4.408742E+002	1.298506E+002	9.345902E+001	2.657159E+000	6.680347E-001	0.000000E+000	1.288654E-005
Ru-103	9.914868E+002	2.918847E+002	2.100815E+002	5.975513E+000	1.502327E+000	0.000000E+000	2.897845E-005
Ru-105	2.430339E+002	7.159274E+001	5.152839E+001	1.464788E+000	3.682592E-001	0.000000E+000	7.103956E-006
Ru-106	4.337898E+002	1.277034E+002	9.191344E+001	2.614373E+000	6.572899E-001	0.000000E+000	1.267849E-005
Rh-105	5.932225E+002	1.746529E+002	1.257049E+002	3.575265E+000	8.988689E-001	0.000000E+000	1.733849E-005
Sb-125	2.449726E+002	7.211751E+001	5.190595E+001	1.476406E+000	3.711891E-001	0.000000E+000	7.159878E-006
Sb-127	9.346098E+003	2.751483E+003	1.980356E+003	5.632737E+001	1.416147E+001	0.000000E+000	2.731622E-004
Sb-129	1.355891E+003	3.994196E+002	2.874796E+002	8.172085E+000	2.054526E+000	0.000000E+000	3.963314E-005
Te-127	8.455410E+002	2.489944E+002	1.792118E+002	5.096033E+000	1.281199E+000	0.000000E+000	2.471406E-005
Te-127m	1.891808E+002	5.569301E+001	4.008456E+001	1.140159E+000	2.866518E-001	0.000000E+000	5.529237E-006
Te-129	6.042612E+001	1.783266E+001	1.283503E+001	3.642409E-001	9.156668E-002	0.000000E+000	1.766796E-006
Te-129m	8.724661E+002	2.568462E+002	1.848628E+002	5.258197E+000	1.321984E+000	0.000000E+000	2.549980E-005
Te-131m	1.547842E+003	4.557095E+002	3.279930E+002	9.328625E+000	2.345339E+000	0.000000E+000	4.523983E-005
Te-132	1.619624E+004	4.768187E+003	3.431861E+003	9.761210E+001	2.454101E+001	0.000000E+000	4.733746E-004
Te-133m	4.645060E+001	1.371692E+001	9.872762E+000	2.800108E-001	7.039036E-002	0.000000E+000	1.358306E-006
Te-134	1.953559E+001	5.774575E+000	4.156271E+000	1.177715E-001	2.960482E-002	0.000000E+000	5.713503E-007
I-131E	2.399817E+003	1.457584E+003	9.717225E+002	9.181000E+000	4.614094E-002	7.589216E+000	3.206104E-004
I-131O	1.170061E+004	2.129913E+004	1.419942E+004	2.036153E+001	1.796333E+001	2.547536E-001	1.447038E-004
I-131P	6.008365E+004	1.770931E+004	1.274613E+004	3.839946E+002	9.254688E+001	1.503001E+002	1.883855E-003
I-132E	4.184441E+002	2.544501E+002	1.696349E+002	1.600987E+000	8.045703E-001	1.323343E+000	5.591292E-005
I-132O	2.040267E+003	3.718835E+003	2.479244E+003	3.551925E+000	3.132425E+000	4.442175E-002	2.524254E-005
I-132P	1.047653E+004	3.091719E+003	2.225205E+003	6.696127E+001	1.613766E+001	2.620805E+001	3.285454E-004
I-133E	3.893932E+003	2.365343E+003	1.576897E+003	1.489718E+001	7.486840E-002	1.231427E+001	5.202300E-004
I-133O	1.898544E+004	3.456448E+004	2.304301E+004	3.303998E+001	2.914745E+001	4.133635E-001	2.348006E-004
I-133P	9.749150E+004	2.873858E+004	2.068436E+004	6.230735E+002	1.501668E+002	2.438772E+002	3.056796E-003
I-134E	2.084678E+001	1.270078E+001	8.467370E+000	7.977228E-002	4.008621E-004	6.593254E-002	2.786349E-006
I-134O	1.016528E+002	1.856768E+002	1.237872E+002	1.770843E-001	1.560767E-001	2.132133E-003	1.258487E-006
I-134P	5.219416E+002	1.543387E+002	1.110854E+002	3.336482E+000	8.040324E-001	1.305757E+000	1.637347E-005
I-135E	2.190328E+003	1.330876E+003	8.872530E+002	8.379808E+000	4.211372E-002	6.926812E+000	2.926403E-004
I-135O	1.067938E+004	1.944874E+004	1.296587E+004	1.858691E+001	1.639569E+001	2.325181E-001	1.320920E-004
I-135P	5.483880E+004	1.617021E+004	1.163839E+004	3.504850E+002	8.446939E+001	1.371816E+002	1.719525E-003
Xe-133	5.202417E+007	9.097285E+007	6.064858E+007	8.856571E+004	7.896931E+004	3.297149E+002	6.057520E+001
Xe-135	1.256645E+007	2.198122E+007	1.465418E+007	2.139505E+004	1.907522E+004	7.964275E+001	1.463333E+001
Cs-134	1.565966E+004	4.616791E+003	3.322895E+003	1.013966E+002	2.421116E+001	4.821148E+001	4.986733E-004
Cs-136	4.525161E+003	1.334123E+003	9.602235E+002	2.930053E+001	6.996285E+000	1.393164E+001	1.441015E-004
Cs-137	8.022951E+003	2.365332E+003	1.702427E+003	5.194878E+001	1.240416E+001	2.470031E+001	2.554866E-004
Cs-138	1.106387E+001	3.279252E+000	2.360266E+000	7.166526E-002	1.710867E-002	3.406719E-002	3.526258E-007
Ba-139	2.681360E+002	7.909808E+001	5.693065E+001	1.616242E+000	4.063142E-001	0.000000E+000	7.839486E-006
Ba-140	8.554818E+003	2.518672E+003	1.812792E+003	5.156237E+001	1.296350E+001	0.000000E+000	2.500536E-004
La-140	7.923716E+001	2.332828E+001	1.679033E+001	4.775505E-001	1.200625E-001	0.000000E+000	2.315911E-006
La-141	2.346359E+001	6.912503E+000	4.975229E+000	1.414182E-001	3.555352E-002	0.000000E+000	6.858581E-007
La-142	3.323871E+000	9.803293E-001	7.055890E-001	2.003501E-002	5.036726E-003	0.000000E+000	9.717692E-008
Ce-141	2.002317E+002	5.894642E+001	4.242617E+001	1.206760E+000	3.033964E-001	0.000000E+000	5.852225E-006
Ce-143	1.657990E+002	4.881376E+001	3.513329E+001	9.992465E-001	2.512237E-001	0.000000E+000	4.845916E-006
Ce-144	1.575749E+002	4.638851E+001	3.338773E+001	9.496758E-001	2.387618E-001	0.000000E+000	4.605484E-006
Pr-143	7.409609E+001	2.181134E+001	1.569996E+001	4.465641E-001	1.122724E-001	0.000000E+000	2.165628E-006
Nd-147	3.299449E+001	9.713354E+000	6.991102E+000	1.988520E-001	4.999415E-002	0.000000E+000	9.643401E-007
Np-238	6.331492E+001	1.864033E+001	1.341622E+001	3.815891E-001	9.593663E-002	0.000000E+000	1.850538E-006
Pu-239	2.658433E+003	7.826558E+002	5.633098E+002	1.602196E+001	4.028136E+000	0.000000E+000	7.769935E-005
Np-238	8.358485E-001	2.460655E-001	1.771035E-001	5.037508E-003	1.266500E-003	0.000000E+000	2.442956E-008
Pu-239	6.025204E-002	1.773760E-002	1.276648E-002	3.631282E-004	9.129550E-005	0.000000E+000	1.761002E-009
Pu-240	9.126023E-002	2.686610E-002	1.933664E-002	5.500090E-004	1.382799E-004	0.000000E+000	2.667286E-009
Pu-241	2.447920E+001	7.206434E+000	5.186768E+000	1.475318E-001	3.709154E-002	0.000000E+000	7.154600E-007
Am-241	1.257969E-002	3.703336E-003	2.665444E-003	7.581554E-005	1.906109E-005	0.000000E+000	3.676699E-010
Cm-242	3.822071E+000	1.125180E+000	8.098387E-001	2.303493E-002	5.791303E-003	0.000000E+000	1.117087E-007
Cm-244	8.076877E-001	2.377752E-001	1.711366E-001	4.867788E-003	1.223830E-003	0.000000E+000	2.360650E-008

Time = 28800.000000 Seconds  
CPU ClockTime = 87.880000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	18.65676	45.50696	3.08623	21.74299	8.50867 ending at	14038.0 Sec
LPZ	2.08221	5.70090	0.39026	2.47248		
ContolRoom	0.54139	14.90727	0.95545	1.49684		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.772330E+000	5.693387E-001	4.097766E-001	1.076590E-002	2.736097E-003	0.000000E+000	5.287649E-008
Co-60	2.127939E+000	6.835721E-001	4.919951E-001	1.292602E-002	3.285080E-003	0.000000E+000	6.348585E-008
Br-82E	1.485362E+001	9.029611E+000	6.019744E+000	3.225209E-002	7.386347E-003	4.701849E-002	1.362482E-006
Br-82O	7.242090E+001	1.319476E+002	8.796509E+001	1.277613E-001	1.128137E-001	1.578309E-003	9.497683E-007
Br-82P	1.962893E+002	6.313642E+001	4.544191E+001	1.254636E+000	3.064720E-001	9.311745E-001	6.227616E-006
Br-83E	3.086435E+001	1.878659E+001	1.252449E+001	6.702554E-002	1.534867E-002	9.770296E-002	2.831557E-006
Br-83O	1.504893E+002	2.745671E+002	1.830462E+002	2.656012E-001	2.344327E-001	3.279677E-003	1.974438E-006
Br-83P	4.078711E+002	1.313670E+002	9.455072E+001	2.607251E+000	6.368440E-001	1.934952E+000	1.294285E-005
Br-84E	1.512752E-002	9.252450E-003	6.168524E-003	3.286774E-005	7.523894E-006	4.789305E-005	1.388673E-009
Br-84O	7.377015E-002	1.353054E-001	9.020684E-002	1.304133E-004	1.149339E-004	1.607666E-006	9.694294E-010
Br-84P	1.999123E-001	6.471402E-002	4.657841E-002	1.278340E-003	3.121834E-004	9.484946E-004	6.348283E-009
Kr-85	3.863855E+005	6.761829E+005	4.507886E+005	6.685919E+002	5.972114E+002	2.451155E+000	4.800821E-001
Kr-85m	2.617817E+006	4.584886E+006	3.056604E+006	4.530913E+003	4.046272E+003	1.660694E+001	3.253409E+000
Kr-87	2.057700E+005	3.611156E+005	2.407474E+005	3.563688E+002	3.180678E+002	1.305372E+000	2.558861E-001
Kr-88	3.134589E+006	5.492496E+006	3.661689E+006	5.426108E+003	4.845085E+003	1.988527E+001	3.896194E+000
Rb-86	7.343288E+001	2.362403E+001	1.700319E+001	4.747394E-001	1.149497E-001	4.287357E-001	2.361810E-006
Sr-89	2.588437E+003	8.315035E+002	5.984674E+002	1.572329E+001	3.995991E+000	0.000000E+000	7.722460E-005
Sr-90	2.931496E+002	9.417041E+001	6.777833E+001	1.780717E+000	4.525600E-001	0.000000E+000	8.745953E-006
Sr-91	1.865849E+003	5.995961E+002	4.315546E+002	1.133425E+001	2.880498E+000	0.000000E+000	5.566941E-005
Sr-92	4.487980E+002	1.443534E+002	1.038976E+002	2.726430E+000	6.928720E-001	0.000000E+000	1.339205E-005
Y-90	2.772863E+000	8.907933E-001	6.411408E-001	1.684363E-002	4.280711E-003	0.000000E+000	8.272744E-008
Y-91	3.298966E+001	1.059752E+001	7.627471E+000	2.003935E-001	5.092896E-002	0.000000E+000	9.842284E-007
Y-92	7.294649E+000	2.345586E+000	1.688221E+000	4.431380E-002	1.126167E-002	0.000000E+000	2.176618E-007

Y-93	2.316476E+001	7.443880E+000	5.357674E+000	1.407160E-001	3.576174E-002	0.000000E+000	6.911407E-007
Zr-95	4.319787E+001	1.387677E+001	9.987687E+000	2.624026E-001	6.668824E-002	0.000000E+000	1.288785E-006
Zr-97	3.063601E+001	9.843426E+000	7.084725E+000	1.860990E-001	4.729568E-002	0.000000E+000	9.140347E-007
Nb-95	4.320665E+001	1.387962E+001	9.989735E+000	2.624559E-001	6.670179E-002	0.000000E+000	1.289047E-006
Mo-99	5.491379E+002	1.764125E+002	1.269714E+002	3.335713E+000	8.477522E-001	0.000000E+000	1.638334E-005
Te-99m	2.071552E+002	6.658392E+001	4.792329E+001	1.258399E+000	3.198081E-001	0.000000E+000	6.180860E-006
Ru-103	5.224405E+002	1.678277E+002	1.207925E+002	3.173530E+000	8.065359E-001	0.000000E+000	1.558673E-005
Ru-105	1.096318E+002	3.524504E+001	2.536738E+001	6.659862E-001	1.692516E-001	0.000000E+000	3.271163E-006
Ru-106	2.287257E+002	7.347513E+001	5.288308E+001	1.389379E+000	3.531034E-001	0.000000E+000	6.823903E-006
Rh-105	3.067490E+002	9.854863E+001	7.092954E+001	1.863339E+000	4.735559E-001	0.000000E+000	9.151812E-006
Sb-125	1.291738E+002	4.149537E+001	2.986593E+001	7.846575E-001	1.994166E-001	0.000000E+000	3.853828E-006
Sb-127	4.891400E+003	1.571356E+003	1.130970E+003	2.971256E+001	7.551279E+000	0.000000E+000	1.459330E-004
Sb-129	6.107705E+002	1.963553E+002	1.413254E+002	3.710282E+000	9.429188E-001	0.000000E+000	1.822402E-005
Te-127	4.141708E+002	1.330955E+002	9.579448E+001	2.515916E+000	6.393972E-001	0.000000E+000	1.235720E-005
Te-127m	9.973126E+001	3.203739E+001	2.305863E+001	6.058109E-001	1.539636E-001	0.000000E+000	2.975427E-006
Te-129	1.753014E+001	5.648039E+000	4.065169E+000	1.065072E-001	2.706498E-002	0.000000E+000	5.232222E-007
Te-129m	4.596683E+002	1.476630E+002	1.062791E+002	2.792225E+000	7.096292E-001	0.000000E+000	1.371395E-005
Te-131m	7.989231E+002	2.566707E+002	1.847365E+002	4.853040E+000	1.233369E+000	0.000000E+000	2.383578E-005
Te-132	8.465178E+003	2.719446E+003	1.957298E+003	5.142131E+001	1.306843E+001	0.000000E+000	2.525545E-004
Te-133m	1.156206E+001	3.728015E+000	2.683242E+000	7.025084E-002	1.785117E-002	0.000000E+000	3.451303E-007
Te-134	3.826952E+000	1.235410E+000	8.891913E-001	2.325436E-002	5.908791E-003	0.000000E+000	1.142547E-007
I-131E	2.388919E+003	1.452129E+003	9.680859E+002	5.187086E+000	1.187949E+000	7.562004E+000	2.191268E-004
I-1310	1.164748E+004	2.121941E+004	1.414628E+004	2.054736E+001	1.814383E+001	2.538401E-001	1.527477E-004
I-131P	3.156934E+004	1.015347E+004	7.307871E+003	2.017829E+002	4.929000E+001	1.497612E+002	1.001581E-001
I-132E	3.084539E+002	1.877640E+002	1.251771E+002	6.698486E-001	1.533927E-001	9.764311E-001	2.829842E-005
I-1320	1.503972E+003	2.744205E+003	1.829486E+003	2.654451E+000	2.342896E+000	3.277668E-002	1.973277E-005
I-132P	4.076205E+003	1.312962E+003	9.449979E+002	2.605662E+001	6.364541E+000	1.933766E+001	1.293504E-004
I-133E	3.762697E+003	2.287516E+003	1.525012E+003	8.170104E+000	1.871102E+000	1.191067E+001	3.451446E-004
I-1330	1.834559E+004	3.342719E+004	2.228481E+004	3.236506E+001	2.857789E+001	3.998154E-001	2.405995E-004
I-133P	4.972370E+004	1.599471E+004	1.151206E+004	3.178239E+002	7.763517E+001	2.358841E+002	1.577585E-003
I-134E	9.445876E+000	5.763236E+000	3.842242E+000	2.051792E-002	4.697709E-003	2.990333E-002	8.668432E-007
I-1340	4.605985E+001	8.425463E+001	5.617099E+001	8.135787E-002	7.175665E-002	1.003790E-003	6.047889E-007
I-134P	1.248277E+002	4.030469E+001	2.900935E+001	7.980742E-001	1.949175E-001	5.922185E-001	3.962512E-006
I-135E	1.969127E+003	1.197532E+003	7.983570E+002	4.275802E+000	9.792108E-001	6.233249E+000	1.806318E-004
I-1350	9.600871E+003	1.750013E+004	1.166678E+004	1.693972E+001	1.495592E+001	2.092367E-001	1.259282E-004
I-135P	2.602186E+004	8.373495E+003	6.026761E+003	1.663305E+002	4.062914E+001	1.234460E+002	8.256380E-004
Xe-133	5.168878E+007	9.045902E+007	6.030602E+007	8.944176E+004	7.989210E+004	3.279036E+002	6.422360E+001
Xe-135	1.163365E+007	2.036711E+007	1.357810E+007	2.013299E+004	1.798156E+004	7.380164E+001	1.445646E+001
Cs-134	8.257239E+003	2.656409E+003	1.911928E+003	5.338255E+001	1.292564E+001	4.820963E+001	2.655760E-004
Cs-136	2.380950E+003	7.659757E+002	5.513044E+002	1.539271E+001	3.727070E+000	1.390110E+001	7.657815E-005
Cs-137	4.230603E+003	1.361013E+003	9.795775E+002	2.735059E+001	6.622464E+000	2.470025E+001	1.360681E-004
Cs-138	1.603434E+000	5.191513E-001	3.736630E-001	1.037053E-002	2.510410E-003	9.362910E-003	5.161750E-008
Ba-139	8.605715E+001	2.771288E+001	1.994628E+001	5.228363E-001	1.328628E-001	0.000000E+000	2.568366E-006
Ba-140	4.501217E+003	1.445972E+003	1.040726E+003	2.734236E+001	6.948914E+000	0.000000E+000	1.342915E-004
La-140	4.106987E+001	1.319428E+001	9.496468E+000	2.494776E-001	6.340320E-002	0.000000E+000	1.225311E-006
La-141	1.035802E+001	3.330310E+000	2.396969E+000	6.292287E-002	1.599094E-002	0.000000E+000	3.090644E-007
La-142	1.117479E+000	3.597777E-001	2.589489E-001	6.789088E-003	1.725254E-003	0.000000E+000	3.334995E-008
Ce-141	1.054912E+002	3.388779E+001	2.439044E+001	6.407992E-001	1.628557E-001	0.000000E+000	3.147272E-006
Ce-143	8.561739E+001	2.750631E+001	1.979743E+001	5.200808E-001	1.321752E-001	0.000000E+000	2.554385E-006
Ce-144	8.308304E+001	2.668934E+001	1.920942E+001	5.046824E-001	1.282624E-001	0.000000E+000	2.478736E-006
Pr-143	3.898884E+001	1.252478E+001	9.014600E+000	2.368352E-001	6.019040E-002	0.000000E+000	1.163212E-006
Nd-147	1.735275E+001	5.574414E+000	4.012136E+000	1.054082E-001	2.678893E-002	0.000000E+000	5.177106E-007
Np-238	3.293446E+001	1.058047E+001	7.615205E+000	2.000591E-001	5.084382E-002	0.000000E+000	9.825904E-007
Np-239	1.384742E+003	4.448572E+002	3.201822E+002	8.411560E+000	2.137748E+000	0.000000E+000	4.131337E-005
Pu-238	4.407542E-001	1.415864E-001	1.019056E-001	2.677332E-003	6.804298E-004	0.000000E+000	1.314965E-008
Pu-239	3.177174E-002	1.020625E-002	7.345861E-003	1.929953E-004	4.904875E-005	0.000000E+000	9.478922E-010
Pu-240	4.812279E-002	1.545881E-002	1.112634E-002	2.923187E-004	7.429126E-005	0.000000E+000	1.435717E-009
Pu-241	1.290816E+001	4.146574E+000	2.984461E+000	7.840973E-002	1.992742E-002	0.000000E+000	3.851076E-007
Am-241	6.633447E-003	2.130907E-003	1.533702E-003	4.029443E-005	1.024062E-005	0.000000E+000	1.979052E-010
Cm-242	2.015074E+000	6.473163E-001	4.659003E-001	1.224043E-002	3.110841E-003	0.000000E+000	6.011860E-008
Cm-244	4.259032E-001	1.368157E-001	9.847194E-002	2.587120E-003	6.575030E-004	0.000000E+000	1.270658E-008

Time = 29988.000000 Seconds  
CPU ClockTime = 91.290000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	19.21806	45.68510	3.09712	22.31518	8.50867 ending at	14038.0 Sec
LPZ	2.12431	5.70777	0.39068	2.51499		
ContolRoom	0.56465	15.01114	0.96122	1.52586		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb.Bldg	ContolRoom
Co-58	1.434726E+000	4.743543E-001	3.414124E-001	8.740466E-003	2.225520E-003	0.000000E+000	3.808242E-008
Co-60	1.722820E+000	5.696036E-001	4.099672E-001	1.049555E-002	2.672405E-003	0.000000E+000	4.572937E-008
Br-82E	1.475303E+001	8.970871E+000	5.980584E+000	2.780825E-002	9.162734E-003	4.671483E-002	1.174336E-006
Br-820	7.193042E+001	1.310892E+002	8.739285E+001	1.273179E-001	1.124688E-001	1.568116E-003	8.818407E-007
Br-82P	1.578940E+002	5.227079E+001	3.762146E+001	1.009734E+000	2.473840E-001	9.251608E-001	4.450053E-006
Br-83E	2.804969E+001	1.707921E+001	1.138623E+001	5.287963E-002	1.742161E-002	8.882109E-002	2.233109E-006
Br-830	1.367655E+002	2.496136E+002	1.664104E+002	2.421884E-001	2.138507E-001	2.981532E-003	1.677426E-006
Br-83P	3.002024E+002	9.952222E+001	7.163061E+001	1.919979E+000	4.703662E-001	1.759051E+000	8.462455E-006
Br-84E	9.821920E-003	6.011130E-003	4.007566E-003	1.852738E-005	6.101240E-006	3.110561E-005	7.824293E-010
Br-840	4.789712E-002	8.790516E-002	5.860557E-002	8.496564E-005	7.490303E-005	1.044148E-006	5.884275E-010
Br-84P	1.051208E-001	3.503590E-002	2.521736E-002	6.725513E-004	1.647293E-004	6.160289E-004	2.965404E-009
Kr-85	3.862623E+005	6.761454E+005	4.507636E+005	6.710557E+002	5.997920E+002	2.451149E+000	4.490425E-001
Kr-85m	2.486724E+006	4.356623E+006	2.904428E+006	4.321316E+003	3.861488E+003	1.578031E+001	2.891614E+000
Kr-87	1.718004E+005	3.016255E+005	2.010867E+005	2.987419E+002	2.667923E+002	1.090219E+000	1.998983E-001
Kr-88	2.891108E+006	5.067539E+006	3.378382E+006	5.024784E+003	4.489483E+003	1.834647E+001	3.362321E+000
Rb-86	5.942258E+001	1.967537E+001	1.416117E+001	3.841588E-001	9.331518E-002	4.285166E-001	1.697220E-006
Sr-89	2.095263E+003	6.927440E+002	4.985965E+002	1.276451E+001	3.250132E+000	0.000000E+000	5.561528E-005
Sr-90	2.373404E+002	7.847018E+001	5.647823E+001	1.445897E+000	3.681580E-001	0.000000E+000	6.299806E-006
Sr-91	1.474696E+003	4.877546E+002	3.510576E+002	8.984197E+000	2.287543E+000	0.000000E+000	3.914538E-005
Sr-92	3.339466E+002	1.105584E+002	7.957381E+001	2.034614E+000	5.180297E-001	0.000000E+000	8.865671E-006

Y-90	2.236975E+000	7.396369E-001	5.323473E-001	1.362788E-002	3.469957E-003	0.000000E+000	5.937721E-008
Y-91	2.670484E+001	8.829254E+000	6.354779E+000	1.626880E-001	4.142404E-002	0.000000E+000	7.088357E-007
Y-92	5.536371E+000	1.832329E+000	1.318807E+000	3.373036E-002	8.588143E-003	0.000000E+000	1.469742E-007
Y-93	1.833882E+001	6.065393E+000	4.365519E+000	1.117243E-001	2.844710E-002	0.000000E+000	4.867970E-007
Zr-95	3.496878E+001	1.156151E+001	8.321294E+000	2.130326E-001	5.424292E-002	0.000000E+000	9.281883E-007
Zr-97	2.446820E+001	8.091494E+000	5.823787E+000	1.490644E-001	3.795482E-002	0.000000E+000	6.494865E-007
Nb-95	3.497156E+001	1.156245E+001	8.321972E+000	2.130496E-001	5.424723E-002	0.000000E+000	9.282623E-007
Mo-99	4.430552E+002	1.464922E+002	1.054365E+002	2.699137E+000	6.872597E-001	0.000000E+000	1.176025E-005
Tc-99m	1.614543E+002	5.341273E+001	3.844342E+001	9.836325E-001	2.504487E-001	0.000000E+000	4.285886E-006
Ru-103	4.228772E+002	1.398134E+002	1.006295E+002	2.576202E+000	6.559591E-001	0.000000E+000	1.122457E-005
Ru-105	8.430349E+001	2.789547E+001	2.007757E+001	5.136121E-001	1.307728E-001	0.000000E+000	2.237944E-006
Ru-106	1.851769E+002	6.122373E+001	4.406525E+001	1.128112E+000	2.872428E-001	0.000000E+000	4.915211E-006
Rh-105	2.467515E+002	8.159007E+001	5.872376E+001	1.503240E+000	3.827573E-001	0.000000E+000	6.549699E-006
Sb-125	1.045811E+002	3.457691E+001	2.488643E+001	6.371162E-001	1.622242E-001	0.000000E+000	2.775930E-006
Sb-127	3.950374E+003	1.306135E+003	9.400797E+002	2.406605E+001	6.127751E+000	0.000000E+000	1.048566E-004
Sb-129	4.694439E+002	1.553370E+002	1.118028E+002	2.860049E+000	7.282081E-001	0.000000E+000	1.246200E-005
Te-127	3.272610E+002	1.082418E+002	7.790618E+001	1.993752E+000	5.076462E-001	0.000000E+000	8.687053E-006
Te-127m	8.073767E+001	2.669376E+001	1.921260E+001	4.918603E-001	1.252387E-001	0.000000E+000	2.143047E-006
Te-129	1.165280E+001	3.864761E+000	2.781657E+000	7.100489E-002	1.807708E-002	0.000000E+000	3.094359E-007
Te-129m	3.720525E+002	1.230096E+002	8.853510E+001	2.266574E+000	5.771208E-001	0.000000E+000	9.875518E-006
Te-131m	6.422761E+002	2.123750E+002	1.528551E+002	3.912826E+000	9.962894E-001	0.000000E+000	1.704841E-005
Te-132	6.833595E+003	2.259448E+003	1.626218E+003	4.163093E+001	1.060016E+001	0.000000E+000	1.813875E-004
Te-133m	7.306845E+000	2.425379E+000	1.745632E+000	4.452578E-002	1.133540E-002	0.000000E+000	1.940518E-007
Te-134	2.234713E+000	7.426897E-001	5.345537E-001	1.361885E-002	3.466914E-003	0.000000E+000	5.935860E-008
I-131E	2.385334E+003	1.450333E+003	9.668888E+002	4.496118E+000	1.481468E+000	7.553045E+000	1.898700E-004
I-131O	1.163000E+004	2.119318E+004	1.412879E+004	2.058471E+001	1.818436E+001	2.535394E-001	1.425759E-004
I-131P	2.552899E+004	8.450659E+003	6.082289E+003	1.632573E+002	3.999804E+001	1.495838E+002	7.194958E-004
I-132E	2.789219E+002	1.698461E+002	1.132317E+002	5.258317E-001	1.732382E-001	8.832252E-001	2.220591E-005
I-132O	1.359979E+003	2.482332E+003	1.654902E+003	2.408352E+000	2.126508E+000	2.964796E-002	1.668052E-005
I-132P	2.985168E+003	9.897131E+002	7.123411E+002	1.909209E+001	4.677262E+000	1.749177E+001	8.415031E-005
I-133E	3.720367E+003	2.262398E+003	1.508267E+003	7.012644E+000	2.310631E+000	1.178041E+001	2.961426E-004
I-133O	1.813920E+004	3.306016E+004	2.204013E+004	3.210742E+001	2.836209E+001	3.954427E-001	2.223849E-004
I-133P	3.981717E+004	1.318242E+004	9.487934E+003	2.546326E+002	6.238458E+001	2.333043E+002	1.122210E-003
I-134E	7.274268E+000	4.440403E+000	2.960333E+000	1.371754E-002	4.518349E-003	2.303584E-002	5.792987E-007
I-134O	3.547069E+001	6.491570E+001	4.327808E+001	6.286645E-002	5.546656E-002	7.732634E-004	4.354008E-007
I-134P	7.785354E+001	2.587773E+001	1.862553E+001	4.980085E-001	1.219917E-001	4.562118E-001	2.195406E-006
I-135E	1.901148E+003	1.156529E+003	7.710216E+002	3.583688E+000	1.180770E+000	6.019969E+000	1.513387E-004
I-135O	9.269428E+003	1.690093E+004	1.126732E+004	1.640943E+001	1.449362E+001	2.020773E-001	1.136556E-004
I-135P	2.034703E+004	6.738913E+003	4.850283E+003	1.301234E+002	3.187955E+001	1.192221E+002	5.734914E-004
Xe-133	5.157858E+007	9.029009E+007	6.019341E+007	8.960858E+004	8.009179E+004	3.273081E+002	5.996230E+001
Xe-135	1.134127E+007	1.986091E+007	1.324063E+007	1.970576E+004	1.761102E+004	7.196967E+001	1.318621E+001
Cs-134	6.685166E+003	2.213503E+003	1.593149E+003	4.321866E+001	1.049815E+001	4.820902E+001	1.909407E-004
Cs-136	1.926276E+003	6.378100E+002	4.590582E+002	1.245311E+001	3.024958E+000	1.389104E+001	5.501807E-005
Cs-137	3.425191E+003	1.134103E+003	8.162609E+002	2.214338E+001	5.378801E+000	2.470022E+001	9.782976E-005
Cs-138	8.476732E-001	2.825760E-001	2.033862E-001	5.482548E-003	1.331391E-003	6.113719E-003	2.423320E-008
Ba-139	5.914383E+001	1.960523E+001	1.411081E+001	3.603726E-001	9.174902E-002	0.000000E+000	1.570430E-006
Ba-140	3.641566E+003	1.203999E+003	8.665680E+002	2.218472E+001	5.648729E+000	0.000000E+000	9.665944E-005
La-140	3.306278E+001	1.093230E+001	7.868429E+000	2.014223E-001	5.128648E-002	0.000000E+000	8.776071E-007
La-141	7.908384E+000	2.617128E+000	1.883661E+000	4.818155E-002	1.226763E-002	0.000000E+000	2.099414E-007
La-142	7.798587E-001	2.584478E-001	1.860170E-001	4.751722E-003	1.209776E-003	0.000000E+000	2.070669E-008
Ce-141	8.538303E+001	2.822972E+001	2.031809E+001	5.201603E-001	1.324446E-001	0.000000E+000	2.266352E-006
Ce-143	6.884073E+001	2.276282E+001	1.638334E+001	4.193863E-001	1.067847E-001	0.000000E+000	1.827290E-006
Ce-144	6.726369E+001	2.223893E+001	1.600627E+001	4.097757E-001	1.043382E-001	0.000000E+000	1.785402E-006
Pr-143	3.154410E+001	1.042932E+001	7.506410E+000	1.921693E-001	4.893062E-002	0.000000E+000	8.372867E-007
Nd-147	1.403700E+001	4.641017E+000	3.340332E+000	8.551458E-002	2.177393E-002	0.000000E+000	3.725849E-007
Np-238	2.654472E+001	8.776919E+000	6.317112E+000	1.617133E-001	4.117574E-002	0.000000E+000	7.045921E-007
Np-239	1.116591E+003	3.691944E+002	2.657245E+002	6.802392E+000	1.732038E+000	0.000000E+000	2.963831E-005
Pu-238	3.568446E-001	1.179810E-001	8.491580E-002	2.173926E-003	5.535306E-004	0.000000E+000	9.471845E-009
Pu-239	2.572314E-002	8.504658E-003	6.121153E-003	1.567074E-004	3.990124E-005	0.000000E+000	6.827777E-010
Pu-240	3.896132E-002	1.288150E-002	9.271351E-003	2.373555E-004	6.043606E-005	0.000000E+000	1.034163E-009
Pu-241	1.045072E+001	3.455248E+000	2.486884E+000	6.366662E-002	1.621096E-002	0.000000E+000	2.773970E-007
Am-241	5.370591E-003	1.775640E-003	1.278002E-003	3.271806E-005	8.330758E-006	0.000000E+000	1.425534E-010
Cm-242	1.631355E+000	5.393637E-001	3.882023E-001	9.938342E-003	2.530526E-003	0.000000E+000	4.330159E-008
Cm-244	3.448205E-001	1.140056E-001	8.205451E-002	2.100674E-003	5.348790E-004	0.000000E+000	9.152685E-009

Time = 43200.000000 Seconds  
CPU ClockTime = 131.000000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	23.90925	46.50129	3.14344	27.05269	8.50867 ending at	14038.0 Sec
LPZ	2.47615	5.73926	0.39247	2.86862		
ContolRoom	0.71382	15.40731	0.98076	1.69458		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.847780E-001	6.230864E-002	4.484610E-002	9.312172E-004	2.945982E-004	0.000000E+000	2.319769E-009
Co-60	2.222017E-001	7.492796E-002	5.392874E-002	1.119819E-003	3.542641E-004	0.000000E+000	2.789598E-009
Br-82E	1.367915E+001	8.342800E+000	5.561870E+000	1.720746E-002	1.838038E-002	4.346718E-002	2.505502E-007
Br-82O	6.669458E+001	1.219114E+002	8.127428E+001	1.202161E-001	1.065504E-001	1.459099E-003	5.464633E-007
Br-82P	1.894976E+001	6.398632E+000	4.605361E+000	9.799687E-002	3.029194E-002	8.608429E-001	2.461895E-007
Br-83E	9.684436E+000	5.919306E+000	3.946236E+000	1.218677E-002	1.301326E-002	3.077451E-002	1.774216E-007
Br-83O	4.721966E+001	8.651098E+001	5.767445E+001	8.517536E-002	7.544030E-002	1.033034E-003	3.871529E-007
Br-83P	1.341592E+001	4.540235E+000	3.267811E+000	6.939015E-002	2.144668E-002	6.094716E-001	1.743383E-007
Br-84E	8.057066E-005	4.965308E-005	3.310326E-005	1.015278E-007	1.082805E-007	2.560637E-007	1.477319E-012
Br-84O	3.929072E-004	7.261134E-004	4.840932E-004	7.107092E-007	6.278132E-007	8.595503E-009	3.229585E-012
Br-84P	1.116167E-004	3.809569E-005	2.741966E-005	5.776534E-007	1.784555E-007	5.071195E-006	1.451793E-012
Kr-85	3.848947E+005	6.757296E+005	4.504864E+005	6.835686E+002	6.137852E+002	2.451083E+000	3.018542E+001
Kr-85m	1.404418E+006	2.468864E+006	1.645917E+006	2.495255E+003	2.239649E+003	8.943612E+000	1.101830E-000
Kr-87	2.309882E+004	4.074098E+004	2.716107E+004	4.108281E+001	3.683806E+001	1.470985E-001	1.813932E-002
Kr-88	1.176328E+006	2.069467E+006	1.379654E+006	2.090500E+003	1.875934E+003	7.491099E+000	9.230839E-001
Rb-86	7.621049E+000	2.573663E+000	1.852372E+000	3.964268E-002	1.218990E-002	4.260881E-001	9.977734E-008
Sr-89	2.696863E+002	9.094051E+001	6.545364E+001	1.359126E+000	4.299705E-001	0.000000E+000	3.385738E-006

Sr-90	3.061251E+001	1.032275E+001	7.429708E+000	1.542764E-001	4.880661E-002	0.000000E+000	3.843202E-007
Sr-91	1.455262E+002	4.910230E+001	3.534100E+001	7.334336E-001	2.320200E-001	0.000000E+000	1.827110E-006
Sr-92	1.684770E+001	5.693283E+000	4.097709E+000	8.491952E-002	2.686184E-002	0.000000E+000	2.115617E-007
Y-90	2.773013E-001	9.351634E-002	6.730758E-002	1.397511E-003	4.421120E-004	0.000000E+000	3.481372E-009
Y-91	3.438227E+000	1.159399E+000	8.344672E-001	1.732748E-002	5.481689E-003	0.000000E+000	4.316473E-008
Y-92	3.480742E-001	1.175647E-001	8.461647E-002	1.754378E-003	5.549622E-004	0.000000E+000	4.370633E-009
Y-93	1.843279E+000	6.219186E-001	4.476210E-001	9.289864E-003	2.938834E-003	0.000000E+000	2.314262E-008
Zr-95	4.502907E+000	1.518417E+000	1.092867E+000	2.269309E-002	7.179146E-003	0.000000E+000	5.653110E-008
Zr-97	2.712519E+000	9.149946E-001	6.585598E-001	1.367049E-002	4.324690E-003	0.000000E+000	3.405520E-008
Nb-95	4.497075E+000	1.516455E+000	1.091456E+000	2.266371E-002	7.169849E-003	0.000000E+000	5.645791E-008
Mo-99	5.498391E+001	1.854258E+001	1.334586E+001	2.771015E-001	8.766294E-002	0.000000E+000	6.902939E-007
Tc-99m	1.363821E+001	4.603321E+000	3.313207E+000	6.873657E-002	2.174423E-002	0.000000E+000	1.712370E-007
Ru-103	5.439682E+001	1.834310E+001	1.320228E+001	2.741412E-001	8.672681E-002	0.000000E+000	6.829173E-007
Ru-105	6.131302E+000	2.070209E+000	1.490019E+000	3.090251E-002	9.775565E-003	0.000000E+000	7.698557E-008
Ru-106	2.387782E+001	8.051771E+000	5.795192E+000	1.203359E-001	3.806926E-002	0.000000E+000	2.997705E-007
Rh-105	2.961985E+001	9.989648E+000	7.189965E+000	1.492755E-001	4.722412E-002	0.000000E+000	3.718647E-007
Sb-125	1.348773E+001	4.548158E+000	3.273497E+000	6.797348E-002	2.150397E-002	0.000000E+000	1.693297E-007
Sb-127	4.956579E+002	1.671497E+002	1.203046E+002	2.497955E+000	7.902459E-001	0.000000E+000	6.222706E-006
Sb-129	3.396478E+001	1.146820E+001	8.254162E+000	1.711868E-001	5.415244E-002	0.000000E+000	4.264676E-007
Te-127	3.220297E+001	1.086574E+001	7.820531E+000	1.622989E-001	5.134287E-002	0.000000E+000	4.043148E-007
Te-127m	1.040364E+001	3.508187E+000	2.524987E+000	5.243074E-002	1.658690E-002	0.000000E+000	1.306110E-007
Te-129	1.677124E+001	5.683611E-002	4.090772E-002	8.455142E-004	2.674120E-004	0.000000E+000	2.106679E-009
Te-129m	4.783719E+001	1.613115E+001	1.161025E+001	2.410829E-001	7.626856E-002	0.000000E+000	6.005654E-007
Te-131m	7.658701E+001	2.583027E+001	1.859112E+001	3.859768E-001	1.221058E-001	0.000000E+000	9.615191E-007
Te-132	8.532186E+002	2.877325E+002	2.070930E+002	4.299948E+000	1.360319E+000	0.000000E+000	1.071169E-005
Te-133m	5.994441E-002	2.034053E-002	1.464011E-002	3.022346E-004	9.558145E-005	0.000000E+000	7.530834E-010
Ta-134	7.611950E-003	2.588072E-003	1.862775E-003	3.838431E-005	1.213767E-005	0.000000E+000	9.565025E-011
I-131E	2.345822E+003	1.430512E+003	9.536750E+002	2.950825E+000	3.152024E+000	7.454124E+000	4.296600E-005
I-131O	1.143735E+004	2.090354E+004	1.393570E+004	2.061478E+001	1.827213E+001	2.502188E-001	9.370847E-005
I-131P	3.249673E+003	1.097147E+003	7.896624E+002	1.680521E+001	5.194718E+000	1.476247E+002	4.221813E-005
I-132E	9.107543E+001	5.567381E+001	3.711619E+001	1.146104E-001	1.223810E-001	2.894135E-001	1.668548E-006
I-132O	4.440693E+002	8.136830E+002	5.424599E+002	8.010503E-001	7.094669E-001	9.714985E-003	3.641051E-006
I-132P	1.261675E+002	4.270319E+001	3.073541E+001	6.525724E-001	2.016917E-001	5.731670E+000	1.639554E-006
I-133E	3.280520E+003	2.000983E+003	1.333990E+003	4.126751E+000	4.407973E+000	1.042427E+001	6.008737E-005
I-133O	1.599466E+004	2.924013E+004	1.949344E+004	2.883125E+001	2.555292E+001	3.499203E-001	1.310570E-004
I-133P	4.544514E+003	1.534689E+003	1.104580E+003	2.350171E+001	7.264598E+000	2.064468E+002	5.904166E-005
I-134E	3.981577E-001	2.443493E-001	1.629031E-001	5.013736E-004	5.350534E-004	1.265315E-003	7.297381E-009
I-134O	1.941491E+000	3.572222E+000	2.381534E+000	3.506890E-003	3.102026E-003	4.247388E-005	1.593804E-008
I-134P	5.515748E-001	1.874471E-001	1.349153E-001	2.853711E-003	8.818080E-004	2.505884E-002	7.170924E-009
I-135E	1.286270E+003	7.850293E+002	5.233544E+002	1.618228E+000	1.728354E+000	4.087324E+000	2.356126E-005
I-135O	6.271465E+003	1.147202E+004	7.648036E+003	1.130688E+001	1.001933E+001	1.372026E-001	5.139628E-005
I-135P	1.781875E+003	6.021039E+002	4.333598E+002	9.215261E+000	2.848431E+000	8.094713E+001	2.315138E-005
Xe-133	5.036871E+007	8.843255E+007	5.895504E+007	8.945557E+004	8.032222E+004	3.207576E+002	3.950227E+001
Xe-135	8.545329E+006	1.501206E+007	1.000806E+007	1.517948E+004	1.362724E+004	5.441832E+001	6.702926E+000
Cs-134	8.621497E+002	2.911482E+002	2.095514E+002	4.484671E+000	1.379012E+000	4.820225E+001	1.128754E-005
Cs-136	2.464632E+002	8.323220E+001	5.990566E+001	1.282037E+000	3.942190E-001	1.377961E+001	3.226781E-006
Cs-137	4.417861E+002	1.491913E+002	1.073791E+002	2.298053E+000	7.066387E-001	2.469999E+001	5.784005E-006
Cs-138	9.553523E-004	3.261147E-004	2.347235E-004	4.973255E-006	1.528363E-006	5.342064E-005	1.252247E-011
Ba-139	1.233250E+000	4.175848E-001	3.005556E-001	6.216997E-003	1.966350E-003	0.000000E+000	1.548973E-008
Ba-140	4.658105E+002	1.570775E+002	1.130551E+002	2.347526E+000	7.426585E-001	0.000000E+000	5.847960E-006
La-140	4.003482E+000	1.350196E+000	9.717918E-001	2.017637E-002	6.382911E-003	0.000000E+000	5.026192E-008
La-141	5.313030E-001	1.794246E-001	1.291397E-001	2.677867E-003	8.470962E-004	0.000000E+000	6.671255E-009
La-142	1.928225E-002	5.626543E-003	4.697459E-003	9.720198E-005	3.074430E-005	0.000000E+000	2.421764E-010
Ce-141	1.097708E+001	3.701573E+000	2.664175E+000	5.532068E-002	1.750115E-002	0.000000E+000	1.378102E-007
Ce-143	8.222806E+000	2.773271E+000	1.996038E+000	4.144060E-002	1.310995E-002	0.000000E+000	1.032340E-007
Ce-144	8.672622E+000	2.924471E+000	2.104862E+000	4.370700E-002	1.382707E-002	0.000000E+000	1.088792E-007
Pr-143	4.036987E+000	1.361324E+000	9.798012E-001	2.034504E-002	6.436315E-003	0.000000E+000	5.068185E-008
Nd-147	1.793136E+000	6.046713E-001	4.352069E-001	9.036799E-003	2.858863E-003	0.000000E+000	2.251172E-008
Np-238	3.256607E+000	1.098275E+000	7.904743E-001	1.641230E-002	5.192136E-003	0.000000E+000	4.088511E-008
Np-239	1.376826E+002	4.643226E+001	3.341922E+001	6.938775E-001	2.195126E-001	0.000000E+000	1.728535E-006
Pu-238	4.602663E-002	1.552050E-002	1.117074E-002	2.319582E-004	7.338191E-005	0.000000E+000	5.778345E-010
Pu-239	3.317840E-003	1.118798E-003	8.052454E-004	1.672076E-005	5.289750E-006	0.000000E+000	4.165332E-011
Pu-240	5.025337E-003	1.694578E-003	1.219658E-003	2.532595E-005	8.012074E-006	0.000000E+000	6.308984E-011
Pu-241	1.347935E+000	4.545331E-001	3.271462E-001	6.793125E-003	2.149061E-003	0.000000E+000	1.692245E-008
Am-241	6.927129E-004	2.335876E-004	1.681226E-004	3.491032E-006	1.104417E-006	0.000000E+000	8.696561E-012
Cm-242	2.102796E-001	7.090783E-002	5.103530E-002	1.059736E-003	3.352563E-004	0.000000E+000	2.639924E-009
Cm-244	4.447517E-002	1.499734E-002	1.079420E-002	2.241394E-004	7.090836E-005	0.000000E+000	5.583569E-010

Time = 69840.000000 Seconds  
CPU ClockTime = 208.330000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	28.97823	46.96748	3.16045	32.13868	8.50867 ending at	14038.0 Sec
LPZ	2.85632	5.75724	0.39312	3.24945		
ContolRoom	0.83871	15.60785	0.98760	1.82630		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.797714E-003	1.039984E-003	7.485196E-004	1.496295E-005	6.110944E-006	0.000000E+000	3.330409E-011
Co-60	4.580174E-003	1.254250E-003	9.027354E-004	1.804583E-005	7.370010E-006	0.000000E+000	4.016587E-011
Br-82E	1.174569E+001	7.206941E+000	4.804630E+000	1.634839E-002	1.868974E-002	3.758921E-002	7.031413E-008
Br-82O	5.726771E+001	1.053133E+002	7.020892E+001	1.039869E-001	9.215735E-002	1.261788E-003	4.259627E-007
Br-82P	3.378223E-001	9.264680E-002	6.668175E-002	1.337301E-003	5.436958E-004	7.444330E-001	2.982078E-009
Br-83E	1.134530E+000	6.988001E-001	4.658705E-001	1.580028E-003	1.805333E-003	3.630908E-003	6.795798E-009
Br-83O	5.531777E+000	1.021300E+001	6.808723E+000	1.005765E-002	8.902276E-003	1.218817E-004	4.119719E-008
Br-83P	3.263080E-002	8.984083E-003	6.466248E-003	1.292096E-004	5.251842E-005	7.190808E-002	2.881548E-010
Kr-85	3.821517E+005	6.748918E+005	4.499279E+005	6.845362E+002	6.148924E+002	2.450949E+000	2.734871E-001
Kr-85m	4.437893E+005	7.855235E+005	5.236846E+005	7.955219E+002	7.140843E+002	2.846269E+000	3.178200E-001
Kr-87	4.040865E+002	7.193567E+002	4.795784E+002	7.256833E-001	6.502354E-001	2.591643E-003	2.898992E-004
Kr-88	1.918987E+005	3.401127E+005	2.267433E+005	3.441354E+002	3.087807E+002	1.230755E+000	1.374839E-001
Rb-86	1.553176E-001	4.259586E-002	3.065800E-002	6.154909E-004	2.499804E-004	4.212332E-001	1.373073E-009
Sr-89	5.536107E+000	1.516038E+000	1.091155E+000	2.181221E-002	8.908213E-003	0.000000E+000	4.854897E-008

Sr-90	6.310634E-001	1.728124E-001	1.243802E-001	2.486383E-003	1.015451E-003	0.000000E+000	5.534115E-009
Sr-91	1.748387E+000	4.792934E-001	3.449677E-001	6.889171E-003	2.813378E-003	0.000000E+000	1.533410E-008
Sr-92	5.232662E-002	1.438281E-002	1.035195E-002	2.062235E-004	8.420335E-005	0.000000E+000	4.590473E-010
Y-90	5.276812E-003	1.435247E-003	1.040204E-003	2.079082E-005	8.490990E-006	0.000000E+000	4.627575E-011
Y-91	7.062051E-002	1.993599E-002	1.391914E-002	2.782441E-004	1.136363E-004	0.000000E+000	6.193074E-010
Y-92	1.684934E-003	4.627265E-004	3.330445E-004	6.640032E-006	2.711320E-006	0.000000E+000	1.478020E-011
Y-93	2.298157E-002	6.299583E-003	4.534075E-003	9.055379E-005	3.698025E-005	0.000000E+000	2.015567E-010
Zr-95	9.251795E-002	2.533588E-002	1.823506E-002	3.645199E-004	1.488717E-004	0.000000E+000	8.113373E-010
Zr-97	4.120587E-002	1.129073E-002	8.126413E-003	1.623579E-004	6.630520E-005	0.000000E+000	3.613765E-010
Nb-95	9.214226E-002	2.523283E-002	1.816111E-002	3.630397E-004	1.482671E-004	0.000000E+000	8.080430E-010
Mo-99	1.048666E+000	2.872140E-001	2.067198E-001	4.131778E-003	1.687422E-003	0.000000E+000	9.196420E-009
Te-99m	1.197533E-001	3.284881E-002	2.364269E-002	4.718858E-004	1.926995E-004	0.000000E+000	1.050352E-009
Ru-103	1.115303E+000	3.054214E-001	2.198244E-001	4.394284E-003	1.794646E-003	0.000000E+000	9.780665E-009
Ru-105	3.981245E-002	1.092720E-002	7.864781E-003	1.568872E-004	6.064005E-005	0.000000E+000	3.492138E-010
Ru-106	4.919584E-001	1.347196E-001	9.696327E-002	1.938311E-003	7.916158E-004	0.000000E+000	4.314233E-009
Rh-105	5.282488E-001	1.446986E-001	1.041456E-001	2.081339E-003	8.500134E-004	0.000000E+000	4.632612E-009
Sb-125	2.779903E-001	7.612579E-002	5.479087E-002	1.095279E-003	4.473173E-004	0.000000E+000	2.437838E-009
Sb-127	9.664817E+000	2.646935E+000	1.905108E+000	3.807958E-002	1.555178E-002	0.000000E+000	8.475659E-008
Sb-129	2.182398E-001	5.990086E-002	4.311324E-002	8.600922E-004	3.511798E-004	0.000000E+000	1.914288E-009
Te-127	3.846783E-001	1.054548E-001	7.590029E-002	1.515749E-003	6.189965E-004	0.000000E+000	3.73796E-009
Te-127m	2.140507E-001	5.861656E-002	4.218876E-002	8.43576E-004	3.444314E-004	0.000000E+000	1.877120E-009
Te-129	4.153213E-005	1.147278E-005	8.257519E-006	1.637424E-007	6.683536E-008	0.000000E+000	3.645293E-013
Te-129m	9.799098E-001	2.683450E-001	1.931390E-001	3.860837E-003	1.576784E-003	0.000000E+000	8.593336E-009
Te-131m	1.347672E+000	3.691659E-001	2.657040E-001	5.309935E-003	2.168560E-003	0.000000E+000	1.181878E-008
Te-132	1.647296E+001	4.451590E-002	3.247178E-002	6.490388E-002	2.650685E-002	0.000000E+000	1.444615E-007
Te-133m	4.779084E-006	1.323118E-006	9.523153E-007	1.884491E-008	7.690879E-009	0.000000E+000	4.195549E-014
I-131E	2.268131E+003	1.391367E+003	9.275780E+002	3.156819E+000	3.609444E+000	7.258588E-001	1.357741E-005
I-131O	1.105856E+004	2.033152E+004	1.355435E+004	2.007862E+001	1.799581E+001	2.346551E-001	8.224854E-005
I-131P	6.523460E+001	1.788622E+001	1.287345E+001	2.582327E-001	1.049892E-001	1.437522E+002	5.758360E-007
I-132E	9.534362E+000	5.873844E+0					

Time = 86400.000000 Seconds  
CPU ClockTime = 255.840000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
	EAB	30.97433	47.20107	3.16769	34.14202	8.50867	ending at 14038.0 Sec
	LPZ	3.00603	5.76625	0.39340	3.39944		
ContolRoom	0.88634	15.70544	0.99061	1.87695			
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.667154E-004	8.167346E-005	5.878376E-005	1.329056E-006	5.904190E-007	0.000000E+000	2.890803E-012
Co-60	4.430716E-004	9.867850E-005	7.102299E-005	6.105786E-006	7.133540E-007	0.000000E+000	3.492713E-012
Br-82E	1.068413E+001	6.580217E+000	4.368613E-001	1.500947E-002	1.716374E-002	3.434313E-002	6.153836E-008
Br-82o	5.209194E+001	6.915514E+001	6.410346E+001	9.473936E-002	8.386573E-002	1.152825E-003	3.871503E-007
Br-82P	2.985980E-002	6.660529E-003	4.793859E-003	1.083743E-004	4.807672E-005	6.801463E-001	2.358641E-010
Br-83E	2.991754E-001	1.815566E-001	1.234387E-001	4.205998E-004	4.806346E-004	9.617034E-004	1.724516E-009
Br-83O	1.458728E+000	2.706574E+000	1.804064E+000	2.657364E-003	2.348577E-003	3.228230E-005	1.085872E-008
Br-83P	8.361331E-004	1.874367E-004	1.349066E-004	3.035715E-006	1.346293E-006	1.904599E-002	6.607564E-012
Kr-85	3.804565E+005	6.743715E+005	4.495810E+005	6.825994E+002	6.125014E+002	2.450866E+000	2.721288E-001
Kr-85m	2.168540E+005	3.854811E+005	2.569885E+005	3.894295E+002	3.491233E+002	1.369656E+000	1.552480E-001
Kr-87	3.267484E+001	5.850425E+001	3.900342E+001	5.881529E-002	5.260706E-002	2.104894E-004	2.344545E-005
Kr-88	6.216876E+004	1.106942E+005	7.379664E+004	1.117031E+002	1.000896E+002	4.004864E-001	4.453033E-002
Rb-86	1.491932E-002	3.327705E-003	2.359087E-003	5.416519E-005	2.402146E-005	4.182432E-001	1.178995E-010
Sr-89	5.341759E-001	1.189700E-001	8.562761E-002	1.935969E-003	8.600338E-004	0.000000E+000	4.210889E-009
Sr-90	6.105053E-002	1.359684E-002	9.786208E-003	2.216202E-004	9.829256E-005	0.000000E+000	4.812586E-010
Sr-91	1.209199E-001	2.696689E-002	1.940921E-002	4.382793E-004	1.946853E-004	0.000000E+000	9.533194E-010

Sr-92	1.560886E-003	3.492768E-004	2.513900E-004	5.658793E-006	2.513146E-006	0.000000E+000	1.230954E-011
Y-90	4.857177E-004	1.081980E-004	7.787457E-005	1.760369E-006	7.820163E-007	0.000000E+000	3.828959E-012
Y-91	6.816578E-003	1.518165E-003	1.092686E-003	2.470475E-005	1.097483E-005	0.000000E+000	5.373482E-011
Y-92	6.622713E-005	1.480314E-005	1.065447E-005	2.400800E-007	1.066299E-007	0.000000E+000	5.222326E-013
Y-93	1.626458E-003	3.626904E-004	2.610436E-004	5.895132E-006	2.618655E-006	0.000000E+000	1.282272E-011
Zr-95	8.931958E-003	1.989293E-003	1.431776E-003	3.237134E-005	1.438063E-005	0.000000E+000	7.041027E-011
Zr-97	3.297281E-003	7.349118E-004	5.289468E-004	1.195067E-005	5.308719E-006	0.000000E+000	2.599407E-011
Nb-95	8.880365E-003	1.977816E-003	1.423516E-003	3.218437E-005	1.429756E-005	0.000000E+000	7.000361E-011
Mo-99	9.666289E-002	2.153241E-002	1.549776E-002	3.503316E-004	1.556294E-004	0.000000E+000	7.620023E-010
Tc-99m	6.815597E-003	1.521167E-003	1.094849E-003	2.470474E-005	1.097342E-005	0.000000E+000	5.373717E-011
Ru-103	1.075339E-001	2.394969E-002	1.723758E-002	3.897262E-004	1.731317E-004	0.000000E+000	8.476860E-010
Ru-105	1.878291E-003	4.195296E-004	3.019536E-004	6.808655E-006	3.024151E-006	0.000000E+000	1.481026E-011
Ru-106	4.757682E-002	1.059606E-002	7.626424E-003	1.724286E-004	7.659961E-005	0.000000E+000	3.750460E-010
Rh-105	4.670287E-002	1.040517E-002	7.489030E-003	1.692653E-004	7.519274E-005	0.000000E+000	3.681684E-010
Sb-125	2.689021E-002	5.988844E-003	4.310418E-003	9.745588E-005	4.329377E-005	0.000000E+000	2.119744E-010
Sb-127	9.032129E-001	2.011866E-001	1.448023E-001	3.273467E-003	1.454192E-003	0.000000E+000	7.120074E-009
Sb-129	1.022922E-002	2.284829E-003	1.644490E-003	3.708019E-005	1.646961E-005	0.000000E+000	8.065726E-011
Te-127	2.650984E-002	5.912165E-003	4.255235E-003	9.608615E-005	4.268179E-005	0.000000E+000	2.090010E-010
Te-127m	2.068279E-002	4.606381E-003	3.315403E-003	7.495889E-005	3.329971E-005	0.000000E+000	1.630416E-010
Te-129m	9.442583E-002	2.103034E-002	1.513640E-002	3.422197E-004	1.520275E-004	0.000000E+000	7.443556E-010
Te-131m	1.181591E-001	2.632614E-002	1.894802E-002	4.282453E-004	1.902391E-004	0.000000E+000	9.314756E-010
Te-132	1.530012E+000	3.408116E-001	2.452962E-001	5.545151E-003	2.463352E-003	0.000000E+000	1.206119E-008
I-131E	2.221139E+003	1.367575E+003	9.117167E+002	3.120205E+000	3.568188E+000	7.139632E+000	1.279272E-005
I-131O	1.082945E+004	1.998386E+004	1.332258E+004	1.969353E+001	1.743490E+001	2.396620E-001	8.047741E-005
I-131P	6.207598E+000	1.384257E+000	9.963072E-001	2.252964E-002	9.994718E-003	1.413964E+002	4.903285E-008
I-132E	2.344414E+000	1.451332E+000	9.675630E-001	3.296062E-003	3.766382E-003	7.536165E-003	1.351433E-008
I-132O	1.143099E+001	2.121149E+001	1.414111E+001	2.082576E-002	1.840412E-002	2.529727E-004	8.509954E-008
I-132P	6.552151E-003	1.469214E-003	1.057460E-003	2.378908E-005	1.054991E-005	1.492495E-001	5.177983E-011
I-133E	2.174067E+003	1.339312E+003	8.928752E+002	3.054326E+000	3.492583E+000	6.988350E+000	1.252267E-005
I-133O	1.059999E+004	1.957120E+004	1.304748E+004	1.927976E+001	1.706555E+001	2.345838E-001	7.878613E-005
I-133P	6.076045E+000	1.355665E+000	9.757290E-001	2.205300E-002	9.782948E-003	1.384003E+002	4.799606E-008
I-134E	2.981905E-005	1.862281E-005	1.241548E-005	4.197889E-008	4.790858E-008	9.585965E-008	1.721317E-013
I-134O	1.454033E-004	2.722529E-004	1.815059E-004	2.657006E-007	2.341179E-007	3.217801E-009	1.085622E-012
I-134P	8.333863E-008	1.885595E-008	1.357159E-008	3.027650E-010	1.341964E-010	1.898446E-006	6.591279E-016
I-135E	3.585148E+002	2.211475E+002	1.474321E+002	5.037723E-001	5.759505E-001	1.152425E+000	2.065478E-006
I-135O	1.748010E+003	3.231737E+003	2.154498E+003	3.180770E+000	2.814254E+000	3.868440E-002	1.299794E-005
I-135P	1.001972E+000	2.238543E-001	1.611175E-001	3.636984E-003	1.613276E-003	2.282312E+001	7.915736E-009
Xe-133	4.660736E+007	8.262147E+007	5.508099E+007	8.362376E+004	7.503381E+004	3.002404E+002	3.333787E+001
Xe-135	3.386629E+006	6.011364E+006	4.007585E+006	6.078909E+003	5.452232E+003	2.181637E+001	2.423420E+000
Cs-134	1.718652E+000	3.832899E-001	2.758976E-001	6.239623E-003	2.767185E-003	4.818010E+001	1.358156E-008
Cs-136	4.787618E-001	1.067875E-001	7.685939E-002	1.738166E-003	7.708502E-004	1.342145E+001	3.783407E-009
Cs-137	8.810553E-001	1.965109E-001	1.414370E-001	3.198701E-003	1.418579E-003	2.469921E+001	6.962498E-009
Ba-139	6.356317E-006	1.428676E-006	1.028286E-006	2.305098E-008	1.023450E-008	0.000000E+000	5.014729E-014
Ba-140	9.040842E-001	2.013611E-001	1.449279E-001	3.276603E-003	1.455594E-003	0.000000E+000	7.126882E-009
La-140	6.494469E-003	1.446872E-003	1.041374E-003	2.353785E-005	1.045625E-005	0.000000E+000	5.119704E-011
La-141	1.255743E-004	2.805911E-005	2.019536E-005	4.552093E-007	2.021821E-007	0.000000E+000	9.901844E-013
Ce-141	2.166009E-002	4.824095E-003	3.472100E-003	7.850086E-005	3.487317E-005	0.000000E+000	1.707457E-010
Ce-143	1.275722E-002	2.842315E-003	2.045732E-003	4.623609E-005	2.053943E-005	0.000000E+000	1.005680E-010
Ce-144	1.727533E-002	3.847474E-003	2.769186E-003	6.260948E-005	2.781362E-005	0.000000E+000	1.361807E-010
Pr-143	7.848205E-003	1.747978E-003	1.258092E-003	2.844365E-005	1.263577E-005	0.000000E+000	6.186726E-011
Nd-147	3.465054E-003	7.717552E-004	5.554641E-004	1.255814E-005	5.578807E-006	0.000000E+000	2.731498E-011
Np-238	5.514065E-003	1.228372E-003	8.841100E-004	1.998449E-005	8.877770E-006	0.000000E+000	4.346810E-011
Np-239	2.370123E-001	5.279802E-002	3.800092E-002	8.589962E-004	3.815950E-004	0.000000E+000	1.868394E-009
Pu-238	9.179294E-005	2.044362E-005	1.471412E-005	3.326772E-007	1.477884E-007	0.000000E+000	7.235996E-013
Pu-239	6.616984E-006	1.473699E-006	1.060682E-006	2.398136E-008	1.065348E-008	0.000000E+000	5.216139E-014
Pu-240	1.002236E-005	2.232124E-006	1.606552E-006	3.632316E-008	1.613619E-008	0.000000E+000	7.900578E-014
Pu-241	2.688098E-003	5.986785E-004	4.308937E-004	9.742242E-006	4.327891E-006	0.000000E+000	2.119016E-011
Am-241	1.381520E-006	3.076845E-007	2.214532E-007	5.006922E-009	2.224274E-009	0.000000E+000	1.089046E-014
Cm-242	4.184825E-004	9.320244E-005	6.708164E-005	1.516760E-006	6.737651E-007	0.000000E+000	3.298880E-012
Cm-244	8.869509E-005	1.975369E-005	1.421754E-005	3.214500E-007	1.428008E-007	0.000000E+000	6.991794E-013

Time = 259200.000000 Seconds  
CPU ClockTime = 760.220000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	37.94448	48.42903	3.20533	41.14980	8.50867 ending at	14038.0 Sec
LPZ	3.23837	5.79315	0.39423	3.63260		
ContolRoom	0.95665	15.91783	0.99712	1.95378		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.491514E-004	8.232327E-005	5.488218E-005	2.825540E-007	5.625068E-007	0.000000E+000	2.484978E-013
Co-60	4.298821E-004	1.013569E-004	6.757126E-005	3.478859E-007	6.925695E-007	0.000000E+000	3.059552E-013
Br-82E	4.042417E+000	2.554896E+000	1.703265E+000	3.538992E-003	6.512627E-003	1.338301E-002	9.251306E-009
Br-82O	1.970936E+001	3.733409E+001	2.488941E+001	2.141124E-002	3.175322E-002	4.492386E-004	5.596047E-008
Br-82P	1.129767E-002	2.668436E-003	1.778959E-003	9.143561E-006	1.820137E-005	2.650429E-001	8.041553E-012
Br-83O	1.350713E-006	2.578731E-006	1.719168E-006	1.470762E-009	2.176178E-009	3.078682E-011	3.844271E-015
Kr-85	3.692663E+005	6.715432E+005	4.476955E+005	3.964841E+002	5.949132E+002	2.449999E+000	1.010984E-001
Kr-85m	1.253240E+002	2.289427E+002	1.526291E+002	1.347360E-001	2.019099E-001	8.314981E-004	3.435745E-005
Kr-88	4.930937E-001	9.031349E-001	6.020940E-001	5.305238E-004	7.944345E-004	3.271574E-006	1.352860E-007
Rb-86	1.344792E-002	3.175509E-003	2.117006E-003	1.088365E-005	2.166553E-005	3.882817E-001	9.571853E-012
Sr-89	5.046094E-001	1.189779E-001	7.931859E-002	4.083599E-004	8.129603E-004	0.000000E+000	3.591405E-010
Sr-90	5.926812E-002	1.397413E-002	9.316088E-003	4.796324E-005	9.548498E-005	0.000000E+000	4.218224E-011
Sr-91	3.537466E-003	8.358312E-004	5.572219E-004	2.863064E-006	5.699157E-006	0.000000E+000	2.518055E-012
Y-90	2.805961E-004	6.617929E-005	4.411954E-005	2.270788E-007	4.520602E-007	0.000000E+000	1.997099E-013
Y-91	6.463431E-003	1.523958E-003	1.015972E-003	5.230592E-006	1.041303E-005	0.000000E+000	4.600150E-012
Y-93	6.050893E-005	1.429494E-005	9.529980E-006	4.897278E-008	9.748494E-008	0.000000E+000	4.307130E-014
Zr-95	8.486541E-003	2.000968E-003	1.333979E-003	6.867812E-006	1.367240E-005	0.000000E+000	6.040037E-012
Zr-97	4.418335E-004	1.042999E-004	6.953336E-005	3.575815E-007	7.118279E-007	0.000000E+000	3.144876E-013
Nb-95	8.287101E-003	1.953965E-003	1.302643E-003	6.706418E-006	1.335109E-005	0.000000E+000	5.898096E-012
Mo-99	5.666645E-002	1.336480E-002	8.909871E-003	4.585860E-005	9.129364E-005	0.000000E+000	4.033144E-011
Tc-99m	2.608912E-005	6.171936E-006	4.114637E-006	2.111680E-008	4.203202E-008	0.000000E+000	1.857247E-014

Ru-103	1.007865E-001	2.376377E-002	1.584252E-002	8.156247E-005	1.623740E-004	0.000000E+000	7.173178E-011
Ru-105	1.015250E-006	2.404643E-007	1.603102E-007	8.218082E-010	1.635672E-009	0.000000E+000	7.228019E-016
Ru-106	4.602223E-002	1.085106E-002	7.234042E-003	3.724389E-005	7.414496E-005	0.000000E+000	3.275490E-011
Rh-105	1.771559E-002	4.179332E-003	2.786223E-003	1.433695E-005	2.854110E-005	0.000000E+000	1.260902E-011
Sb-125	2.607263E-002	6.147364E-003	4.098243E-003	2.109951E-005	4.200479E-005	0.000000E+000	1.855639E-011
Sb-127	6.112122E-001	1.441421E-001	9.609474E-002	4.946348E-004	9.847056E-004	0.000000E+000	4.350179E-010
Sb-129	5.164966E-006	1.223385E-006	8.155935E-007	4.180864E-009	8.321294E-009	0.000000E+000	3.677182E-015
Te-127	7.471724E-004	1.765456E-004	1.176973E-004	6.047282E-007	1.203758E-006	0.000000E+000	5.318564E-013
Te-127m	1.982778E-002	4.674994E-003	3.116663E-003	1.604581E-005	3.194390E-005	0.000000E+000	1.411181E-011
Te-129m	8.797528E-002	2.074317E-002	1.382878E-002	7.119486E-005	1.417342E-004	0.000000E+000	6.261378E-011
Te-131m	4.108518E-002	9.693026E-003	6.462021E-003	3.324969E-005	6.619123E-005	0.000000E+000	2.924237E-011
Te-132	9.709618E-001	2.289907E-001	1.526605E-001	7.857706E-004	1.564288E-003	0.000000E+000	6.910643E-010
I-131E	1.815018E+003	1.146603E+003	7.644019E+002	1.588891E+000	2.924120E+000	6.008869E+000	4.153508E-006
I-131O	8.849353E+003	1.675488E+004	1.116992E+004	9.612152E+000	1.425692E+001	2.017047E-001	2.512224E-005
I-131P	5.072579E+000	1.197550E+000	7.983671E-001	4.105290E-003	8.172275E-003	1.190023E+002	3.610485E-009
I-132E	1.046523E-006	6.668524E-007	4.445720E-007	9.171476E-010	1.686092E-009	3.464788E-009	2.397765E-015
I-132O	5.102681E-006	9.746169E-006	6.497501E-006	5.556930E-009	8.221115E-009	1.163054E-010	1.452474E-014
I-133E	4.263602E+002	2.695750E+002	1.797169E+002	3.732819E-001	6.868986E-001	1.411530E+000	9.758036E-007
I-133O	2.078783E+003	3.939268E+003	2.626181E+003	2.258549E+000	3.349076E+000	4.738200E-002	5.902971E-006
I-133P	1.191584E+000	2.815566E-001	1.877045E-001	9.644077E-004	1.919732E-003	2.795455E+001	8.481794E-010
I-135E	2.199832E+000	1.393777E+000	9.291871E-001	1.926478E-003	3.544131E-003	7.282940E-003	5.036176E-009
I-135O	1.072572E+001	2.036795E+001	1.357867E+001	1.166050E-002	1.728012E-002	2.444725E-004	3.047664E-008
I-135P	6.148058E-003	1.455766E-003	9.705137E-004	4.976511E-006	9.905086E-006	1.442345E-001	4.376881E-012
Xe-133	3.473855E+007	6.318523E+007	4.212350E+007	3.730076E+004	5.596621E+004	2.304825E+002	9.511236E+000
Xe-135	8.493868E+004	1.548117E+005	1.032080E+005	9.125751E+001	1.368435E+002	5.635495E-001	2.327000E-002
Cs-134	1.665628E+000	3.932937E-001	2.621958E-001	1.348020E-003	2.683440E-003	4.809163E+001	1.185543E-009
Cs-136	4.183681E-001	9.879271E-002	6.586181E-002	3.385934E-004	6.740198E-004	1.207954E+001	2.977830E-010
Cs-137	8.553362E-001	2.019647E-001	1.346431E-001	6.922375E-004	1.378005E-003	2.469610E+001	6.088023E-010
Ba-140	7.873663E-001	1.856561E-001	1.237707E-001	6.371853E-004	1.268501E-003	0.000000E+000	5.603860E-010
La-140	2.760169E-003	6.511140E-004	4.340762E-004	2.233754E-006	4.446832E-006	0.000000E+000	1.964533E-012
Ce-141	2.015225E-002	4.751585E-003	3.167723E-003	1.630841E-005	3.246666E-005	0.000000E+000	1.434276E-011
Ce-143	4.535957E-003	1.070132E-003	7.134215E-004	3.670887E-006	7.307757E-006	0.000000E+000	3.228463E-012
Ce-144	1.669165E-002	3.935538E-003	2.623692E-003	1.350786E-005	2.689138E-005	0.000000E+000	1.187976E-011
Pr-143	6.880051E-003	1.622267E-003	1.081511E-003	5.567760E-006	1.108424E-005	0.000000E+000	4.896683E-012
Nd-147	2.965281E-003	6.992022E-004	4.661348E-004	2.399690E-006	4.777272E-006	0.000000E+000	2.110458E-012
Np-238	2.781424E-003	6.560597E-004	4.373733E-004	2.250941E-006	4.481073E-006	0.000000E+000	1.979647E-012
Np-239	1.277342E-001	3.012771E-002	2.008514E-002	1.033721E-004	2.057889E-004	0.000000E+000	9.091313E-011
Pu-238	8.912074E-005	2.101273E-005	1.400849E-005	7.212173E-008	1.435796E-007	0.000000E+000	6.342891E-014
Pu-239	6.424634E-006	1.514789E-006	1.009859E-006	5.199190E-009	1.035052E-008	0.000000E+000	4.572533E-015
Pu-240	9.731009E-006	2.294360E-006	1.529573E-006	7.874904E-009	1.567732E-008	0.000000E+000	6.925743E-015
Pu-241	2.609270E-003	6.152090E-004	4.101394E-004	2.111574E-006	4.203712E-006	0.000000E+000	1.857067E-012
Am-241	1.341348E-006	3.162607E-007	2.108405E-007	1.085498E-009	2.161004E-009	0.000000E+000	9.546629E-016
Cm-242	4.028724E-004	9.498901E-005	6.332601E-005	3.260280E-007	6.490549E-007	0.000000E+000	2.867320E-013
Cm-244	8.609875E-005	2.030021E-005	1.353347E-005	6.967616E-008	1.387110E-007	0.000000E+000	6.127810E-014

Time = 345600.000000 Seconds

CPU ClockTime = 1010.960000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	40.27699	48.91884	3.22028	43.49726	8.50867 ending at	14038.0 Sec
LPZ	3.31612	5.80387	0.39456	3.71068		
ContolRoom	0.97799	15.99621	0.99951	1.97750		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.406874E-004	8.136467E-005	5.424312E-005	2.758777E-007	5.488707E-007	0.000000E+000	8.987886E-015
Co-60	4.234354E-004	1.011256E-004	6.741706E-005	3.428841E-007	6.821833E-007	0.000000E+000	1.117090E-014
Br-82E	2.486521E+000	1.591988E+000	1.061326E+000	2.180278E-003	4.005966E-003	8.354311E-003	5.696564E-009
Br-82O	1.212338E+001	2.326334E+001	1.550890E+001	1.322015E-002	1.953164E-002	2.804361E-004	3.453783E-008
Br-82P	6.949284E-003	1.662736E-003	1.108492E-003	5.627842E-006	1.119580E-005	1.654524E-001	1.833522E-013
Kr-85	3.637952E+005	6.701335E+005	4.467557E+005	3.920366E+002	5.860990E+002	2.449566E+000	9.992214E-002
Kr-85m	3.012783E+000	5.579414E+000	3.719625E+000	3.251684E-003	4.853903E-003	2.028619E-005	8.288325E-007
Kr-88	1.388699E-003	2.579684E-003	1.719801E-003	1.500159E-006	2.237364E-006	9.350637E-009	3.823922E-013
Rb-86	1.276757E-002	3.053797E-003	2.035864E-003	1.033954E-005	2.056944E-005	3.741156E-001	3.368544E-011
Sr-89	4.904456E-001	1.171313E-001	7.808756E-002	3.971472E-004	7.901415E-004	0.000000E+000	1.293876E-011
Sr-90	5.839652E-002	1.394635E-002	9.297569E-003	4.728758E-005	9.408078E-005	0.000000E+000	1.540593E-012
Sr-91	6.050477E-004	1.448621E-004	9.657495E-005	4.900158E-007	9.747830E-007	0.000000E+000	1.596481E-014
Y-90	2.132704E-004	5.095256E-005	3.396838E-005	1.727029E-007	3.435936E-007	0.000000E+000	5.626553E-015
Y-91	6.293779E-003	1.503116E-003	1.002077E-003	5.096500E-006	1.013971E-005	0.000000E+000	1.660401E-013
Y-93	1.167099E-005	2.793818E-006	1.862549E-006	9.452009E-009	1.880294E-008	0.000000E+000	3.079477E-016
Zr-95	8.272233E-003	1.975619E-003	1.317079E-003	6.698588E-006	1.332713E-005	0.000000E+000	2.182349E-013
Zr-97	1.617372E-004	3.868128E-005	2.578755E-005	1.309798E-007	2.605711E-007	0.000000E+000	4.267291E-015
Nb-95	8.005502E-003	1.911941E-003	1.274628E-003	6.482603E-006	1.289741E-005	0.000000E+000	2.111983E-013
Mo-99	4.338694E-002	1.036549E-002	6.910331E-003	3.513403E-005	6.989943E-005	0.000000E+000	1.144645E-012
Tc-99m	1.614125E-006	3.870226E-007	2.580159E-007	1.307353E-009	2.600507E-009	0.000000E+000	4.259453E-017
Ru-103	9.757329E-002	2.330320E-002	1.553547E-002	7.901176E-005	1.571973E-004	0.000000E+000	2.574143E-012
Ru-106	4.526409E-002	1.081007E-002	7.206716E-003	3.665338E-005	7.292354E-005	0.000000E+000	1.194139E-012
Rh-105	1.091093E-002	2.607524E-003	1.738350E-003	8.835640E-006	1.757830E-005	0.000000E+000	2.878607E-013
Sb-125	2.567321E-002	6.131325E-003	4.087550E-003	2.078933E-005	4.136130E-005	0.000000E+000	6.773004E-013
Sb-127	5.027973E-001	1.201100E-001	8.007334E-002	4.071546E-004	8.100416E-004	0.000000E+000	1.326482E-011
Te-127	1.254376E-004	3.003341E-005	2.002231E-005	1.015895E-007	2.020906E-007	0.000000E+000	3.309808E-015
Te-127m	1.941362E-002	4.636434E-003	3.090956E-003	1.572052E-005	3.127666E-005	0.000000E+000	5.121625E-013
Te-129m	8.491719E-002	2.028066E-002	1.352044E-002	6.876326E-005	1.368074E-004	0.000000E+000	2.240255E-012
Te-131m	2.422670E-002	5.790125E-003	3.860085E-003	1.961878E-005	3.903098E-005	0.000000E+000	6.391704E-013
Te-132	7.734920E-001	1.847830E-001	1.231887E-001	6.263590E-004	1.246150E-003	0.000000E+000	2.040637E-011
I-131E	1.640717E+003	1.049890E+003	6.999270E+002	1.438544E+000	2.643308E+000	5.512533E+000	3.758561E-006
I-131O	7.999524E+003	1.534166E+004	1.022777E+004	8.721782E+000	1.288779E+001	1.850438E-001	2.278566E-005
I-131P	4.585444E+000	1.096541E+000	7.310272E-001	3.713385E-003	7.387468E-003	1.091726E+002	1.209794E-010
I-133E	1.888115E+002	1.209424E+002	8.062836E+001	1.655671E-001	3.041897E-001	6.343774E-001	4.325910E-007
I-133O	9.205787E+002	1.767317E+003	1.178213E+003	1.004002E+000	1.483122E+000	2.129468E-002	2.622982E-006
I-133P	5.276871E-001	1.263178E-001	8.421197E-002	4.273559E-004	8.501439E-004	1.256349E+001	1.392311E-011
I-135E	1.723180E-001	1.106493E-001	7.376643E-002	1.511515E-004	2.776202E-004	5.789670E-004	3.949370E-010

I-135O	8.401710E-001	1.616973E+000	1.077985E+000	9.169874E-004	1.353593E-003	1.943467E-005	2.395714E-009
I-135P	4.815919E-004	1.155706E-004	7.704727E-005	3.900786E-007	7.758888E-007	1.146611E-002	1.270901E-014
Xe-133	2.999095E+007	5.525568E+007	3.683712E+007	3.232091E+004	4.831750E+004	2.019400E+002	8.237958E+000
Xe-135	1.345161E+004	2.484386E+004	1.656261E+004	1.450688E+001	2.167170E+001	9.057469E-002	3.697606E-003
Cs-134	1.639732E+000	3.921770E-001	2.614513E-001	1.327897E-003	2.641721E-003	4.804745E+001	4.326188E-011
Cs-136	3.910913E-001	9.354477E-002	6.236319E-002	3.167170E-004	6.300750E-004	1.145976E+001	1.031841E-011
Cs-137	8.427596E-001	2.015637E-001	1.343758E-001	6.824882E-004	1.357743E-003	2.469455E+001	2.223494E-011
Ba-140	7.347858E-001	1.754964E-001	1.169976E-001	5.950080E-004	1.183790E-003	0.000000E+000	1.938492E-011
La-140	1.799417E-003	4.299946E-004	2.866632E-004	1.457157E-006	2.898991E-006	0.000000E+000	4.747337E-014
Ce-141	1.943817E-002	4.642397E-003	3.094931E-003	1.574041E-005	3.131622E-005	0.000000E+000	5.128108E-013
Ce-143	2.704739E-003	6.464161E-004	4.309443E-004	2.190296E-006	4.357532E-006	0.000000E+000	7.135878E-014
Ce-144	1.640724E-002	3.918418E-003	2.612279E-003	1.328605E-005	2.643319E-005	0.000000E+000	4.328493E-013
Pr-143	6.441727E-003	1.538537E-003	1.025691E-003	5.216320E-006	1.037807E-005	0.000000E+000	1.699439E-013
Nd-147	2.743114E-003	6.551743E-004	4.367829E-004	2.221295E-006	4.419345E-006	0.000000E+000	7.236815E-014
Np-238	1.975445E-003	4.720007E-004	3.146673E-004	1.599692E-006	3.182582E-006	0.000000E+000	5.211702E-014
Np-239	9.377252E-002	2.240437E-002	1.493625E-002	7.593568E-005	1.510742E-004	0.000000E+000	2.473939E-012
Pu-238	8.781395E-005	2.097187E-005	1.398125E-005	7.110886E-008	1.414743E-007	0.000000E+000	2.316672E-015
Pu-239	6.330565E-006	1.511876E-006	1.007917E-006	5.126284E-009	1.019897E-008	0.000000E+000	1.670104E-016
Pu-240	9.588528E-006	2.289948E-006	1.526632E-006	7.764475E-009	1.544777E-008	0.000000E+000	2.529607E-016
Pu-241	2.570727E-003	6.139453E-004	4.092968E-004	2.081690E-006	4.141616E-006	0.000000E+000	6.781987E-014
Am-241	1.321703E-006	3.156512E-007	2.104341E-007	1.070272E-009	2.129353E-009	0.000000E+000	3.486863E-017
Cm-242	3.952870E-004	9.440367E-005	6.293578E-005	3.200906E-007	6.368344E-007	0.000000E+000	1.042831E-014
Cm-244	8.482922E-005	2.025906E-005	1.350604E-005	6.869192E-008	1.366657E-007	0.000000E+000	2.237930E-015

Time = 2592000.000000 Seconds  
CPU ClockTime = 7590.100000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	54.97311	53.22024	3.35148	58.32459	8.50867 ending at	14038.0 Sec
LPZ	3.48757	5.83685	0.39556	3.88314		
ContolRoom	1.05091	16.36944	1.01088	2.06179		
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg
Co-58	1.799933E-004	6.000412E-005	4.000275E-005	1.485960E-007	2.899816E-007	0.000000E+000
Co-60	2.858701E-004	9.529363E-005	6.352909E-005	2.360029E-007	4.605563E-007	0.000000E+000
Br-82E	8.096915E-006	7.255540E-006	4.837029E-006	7.445787E-009	1.304472E-008	3.991994E-008
Br-82O	3.947763E-005	1.060235E-004	7.068236E-005	4.810651E-008	6.360133E-008	1.340026E-009
Kr-85	2.467789E+005	6.345022E+005	4.230015E+005	2.959965E+002	3.975776E+002	2.438327E+000
Rb-86	3.310472E-003	1.105440E-003	7.369602E-004	2.733313E-006	5.333398E-006	1.423441E-001
Sr-89	2.339454E-001	7.799227E-002	5.199484E-002	1.931372E-004	3.769021E-004	0.000000E+000
Sr-90	3.972818E-002	1.324320E-002	8.828798E-003	3.279799E-005	6.400481E-005	0.000000E+000
Y-91	3.151871E-003	1.050750E-003	7.005002E-004	2.602073E-006	5.077880E-006	0.000000E+000
Zr-95	4.254177E-003	1.418220E-003	9.454798E-004	3.512096E-006	6.853771E-006	0.000000E+000
Nb-95	3.258536E-003	1.086372E-003	7.242481E-004	2.690142E-006	5.249725E-006	0.000000E+000
Mo-99	4.190052E-005	1.399277E-005	9.328514E-006	3.459570E-008	6.750469E-008	0.000000E+000
Ru-103	4.202156E-002	1.400946E-002	9.339642E-003	3.469161E-005	6.769961E-005	0.000000E+000
Ru-106	2.938959E-002	9.797005E-003	6.531336E-003	2.426288E-005	4.734863E-005	0.000000E+000
Sb-125	1.718536E-002	5.728684E-003	3.819123E-003	1.418755E-005	2.768679E-005	0.000000E+000
Sb-127	3.137740E-003	1.047313E-003	6.982087E-004	2.590624E-006	5.055119E-006	0.000000E+000
Te-127m	1.121371E-002	3.738205E-003	2.492137E-003	9.257614E-006	1.806605E-005	0.000000E+000
Te-129m	3.384572E-002	1.128398E-002	7.522655E-003	2.794195E-005	5.452778E-005	0.000000E+000
Te-132	2.094359E-003	6.992157E-004	4.661439E-004	1.729201E-006	3.374160E-006	0.000000E+000
I-131E	1.188507E+002	1.062059E+002	7.080392E+001	1.092436E-001	1.914766E-001	5.859643E-001
I-131O	5.794715E+002	1.551947E+003	1.034631E+003	7.054082E-001	9.335687E-001	1.966955E-002
I-131P	3.321616E-001	1.109250E-001	7.395000E-002	2.742529E-004	5.351353E-004	1.160469E+001
I-133O	5.842635E-007	1.572857E-006	1.048572E-006	7.125929E-010	9.412928E-010	1.983220E-011
Xe-133	6.571018E+005	1.691108E+006	1.127406E+006	7.884237E+002	1.058637E+003	6.492571E+000
Cs-134	1.091048E+000	3.642300E-001	2.428200E-001	9.008149E-004	1.757753E-003	4.691302E+001
Cs-136	6.776198E-002	2.262976E-002	1.508651E-002	5.594854E-005	1.091692E-004	2.913638E+000
Cs-137	5.733786E-001	1.914126E-001	1.276084E-001	4.734050E-004	9.237521E-004	2.465420E+001
Ba-140	1.218271E-001	4.062637E-002	2.708425E-002	1.005782E-004	1.962718E-004	0.000000E+000
Ce-141	7.608155E-003	2.536531E-003	1.691021E-003	6.281053E-006	1.225726E-005	0.000000E+000
Ce-144	1.049501E-002	3.498519E-003	2.332346E-003	8.664264E-006	1.690817E-005	0.000000E+000
Pr-143	1.163267E-003	3.879123E-004	2.586082E-004	9.603711E-007	1.874104E-006	0.000000E+000
Nd-147	3.621349E-004	1.207708E-004	8.051390E-005	2.989733E-007	5.834242E-007	0.000000E+000
Np-238	3.034242E-005	1.013599E-005	6.757329E-006	2.505313E-008	4.888380E-008	0.000000E+000
Np-239	5.980910E-005	1.993707E-005	1.329138E-005	4.937599E-008	9.635654E-008	0.000000E+000
Pu-238	4.314095E-006	1.438082E-006	9.587214E-007	3.561543E-009	6.950301E-009	0.000000E+000
Pu-240	6.534265E-006	2.178165E-006	1.452110E-006	5.394426E-009	1.052715E-008	0.000000E+000
Pu-241	1.745886E-003	5.819830E-004	3.879886E-004	1.441333E-006	2.812741E-006	0.000000E+000
Cm-242	2.411485E-004	8.038813E-005	5.359208E-005	1.990829E-007	3.885067E-007	0.000000E+000
Cm-244	5.765137E-005	1.921781E-005	1.281188E-005	4.759465E-008	9.288029E-008	0.000000E+000

# CONTAINMENT LEAKAGE TRANSACT RUN (CASE 2)

1 TRANSACT Version 2.0, Revision 0

Based on TACT V

SEP 87 PC VERSION

REVISED TO VERSION 2 - JANUARY 1999  
BY GGNS SAFETY ANALYSIS

MODIFIED FALL 1992 FOR GGNS  
BY OMEGA TECHNICAL SERVICES, INC.

NUCLEAR REGULATORY COMMISSION  
ACCIDENT EVALUATION BRANCH  
DATE 10/15/ 0 TIME 14:39:45

MODEL SUMMARY FOR CASE 1

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms  
Airborne Case: Input File: AirCase2.TXT Output File: AirCase2.OUT  
No CR Fresh Air Charcoal; No CR auto isolation; CR Inleakage = 2010 cfm  
MSIV Leakage 100 scfh max line, 250 scfh total; Cont Int Leak = 0.385%/day  
Containment Spray Credit at 30 minutes  
CASE 2: Single Failure: Outboard MSIV LCS electrical division

TIME INDEPENDENT INPUT  
CASE NUMBER 1

NODES NSTEP  
5 71

OUTPUT CONTROL PARAMETER

I	1	2	3	4	5
IPRINT(I)	1	0	0	1	0

NUMBER OF DOSE EVALUATION POINTS - 3

POWER (MWT)	REACTOR SHUTDOWN TIME (HRS)
3.910E+03	3.361E-02

FRACTION OF ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

PLATEOUT FACTOR FOR ACTIVITY RELEASED FROM CORE TO CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

FRACTION OF CORE INVENTORY AIRBORNE IN THE CONTAINMENT BY ISOTOPIC GROUP							
NOBLES	HALOGENS	ALKMETAL	TELLURM	BARSTRNT	NOBMETAL	LANTHANM	CERIUM
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

ISOTOPIC SPLIT BY GROUP			
	ELEM.	ORG.	PART.
NOBLES	1.000E+00	0.000E+00	0.000E+00
HALOGENS	4.850E-02	1.500E-03	9.500E-01
ALKMETAL	0.000E+00	0.000E+00	1.000E+00
TELLURM	0.000E+00	0.000E+00	1.000E+00
BARSTRNT	0.000E+00	0.000E+00	1.000E+00

NOBMETAL	0.000E+00	0.000E+00	1.000E+00
LANTHANM	0.000E+00	0.000E+00	1.000E+00
CERIUM	0.000E+00	0.000E+00	1.000E+00

VOLUME OF NODES (CU FT)				
Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
2.700E+05	8.400E+05	5.600E+05	3.000E+05	5.782E+02

CONTROL ROOM VOLUME (CU FT)  
2.530E+05

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE NAME	SPLIT	GROUP	SOURCE (CI/MWT)	DECAY CONST (1/HR)	DOSE CONVERSION FACTORS		
					WHOLEBDY	THYROID	INHALATN
CO 58	PART.	NOBMETAL	1.52900E+02	4.07926E-04	1.76120E-01	3.22640E+03	1.08780E+04
CO 60	PART.	NOBMETAL	1.83000E+02	1.50014E-05	4.66200E-01	5.99400E+04	2.18670E+05
BR 82	ELEM.	HALOGENS	9.45750E+00	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	ORG.	HALOGENS	2.92500E-01	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 82	PART.	HALOGENS	1.85250E+02	1.96416E-02	4.81000E-01	7.62200E+02	1.52810E+03
BR 83	ELEM.	HALOGENS	1.70817E+02	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	ORG.	HALOGENS	5.28300E+00	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 83	PART.	HALOGENS	3.34590E+03	2.88756E-01	1.41340E-03	4.21800E+00	8.91700E+01
BR 84	ELEM.	HALOGENS	3.00652E+02	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	ORG.	HALOGENS	9.29850E+00	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
BR 84	PART.	HALOGENS	5.88905E+03	1.31256E+00	3.48170E-01	5.29100E+00	8.39900E+01
KR 85	ELEM.	NOBLES	3.88000E+02	7.37614E-06	4.40300E-04	0.00000E+00	0.00000E+00
KR 85M	ELEM.	NOBLES	9.11000E+03	1.54720E-01	2.76760E-02	0.00000E+00	0.00000E+00
KR 87	ELEM.	NOBLES	1.65700E+04	5.45070E-01	1.52440E-01	0.00000E+00	0.00000E+00
KR 88	ELEM.	NOBLES	2.23600E+04	2.44066E-01	3.77400E-01	0.00000E+00	0.00000E+00
RB 86	PART.	ALKMETAL	7.37600E+01	1.54776E-03	1.77970E-02	4.92100E+03	6.62300E+03
SR 89	PART.	BARSTRNT	2.79500E+04	5.71904E-04	2.86010E-04	2.94520E+01	4.14400E+04
SR 90	PART.	BARSTRNT	3.15100E+03	2.71539E-06	2.78610E-05	9.95300E+02	1.39900E+01
SR 91	PART.	BARSTRNT	3.60400E+04	7.29629E-02	1.82188E-01	3.67410E+01	1.68239E+03
SR 92	PART.	BARSTRNT	3.76500E+04	2.55774E-01	2.51230E-01	1.45040E+01	8.06600E+02
Y 90	PART.	LANTHANM	3.25100E+03	1.08304E-02	7.03000E-04	1.91290E+00	8.43600E+03
Y 91	PART.	LANTHANM	3.56000E+04	4.93610E-04	9.62000E-04	3.14500E+01	4.88400E+04
Y 92	PART.	LANTHANM	3.78000E+04	1.95804E-01	4.81000E-02	3.88500E+00	7.80700E+02
Y 93	PART.	LANTHANM	4.29800E+04	6.86284E-02	1.77600E-02	3.42620E+00	2.15340E+03
ZR 95	PART.	LANTHANM	4.66000E+04	4.51409E-04	1.33200E-01	5.32800E+03	2.36430E+04
ZR 97	PART.	LANTHANM	4.58700E+04	4.10146E-02	1.63984E-01	8.56550E+01	4.33270E+03
NB 95	PART.	LANTHANM	4.67500E+04	8.21654E-04	1.38380E-01	1.32460E+03	5.80900E+03
MO 99	PART.	NOBMETAL	5.13800E+04	1.05022E-02	2.69360E-02	5.62400E+01	3.95900E+03
TC 99M	PART.	NOBMETAL	4.49900E+04	1.15141E-01	2.17930E-02	1.85370E+02	3.25600E+01
RU 103	PART.	NOBMETAL	4.51900E+04	7.5263E-04	8.32870E-02	9.50900E+02	8.95770E+03
RU 105	PART.	NOBMETAL	3.30400E+04	1.56114E-01	1.40970E-01	1.53550E+01	4.55100E+02
RU 106	PART.	NOBMETAL	1.96800E+04	7.84387E-05	3.84800E-02	6.36400E+03	4.77300E+05
RH 105	PART.	NOBMETAL	3.08700E+04	1.96026E-02	1.37640E-02	1.06560E+01	9.54600E+02
SB 125	PART.	TELLURM	5.55500E+02	2.86701E-05	7.47400E-02	1.19880E+03	1.22100E+04
SB 127	PART.	TELLURM	2.23400E+04	7.50159E-03	1.23210E-01	2.27550E+02	6.03100E+03
SB 129	PART.	TELLURM	9.30900E+03	1.60451E-01	2.64180E-01	3.59640E+01	6.43800E+02
TE 127	PART.	TELLURM	3.22000E+03	7.41334E-02	8.95400E-04	6.80800E+00	3.18200E+02
TE 127M	PART.	TELLURM	4.29700E+02	2.64965E-04	5.43900E-04	3.57420E+02	2.14970E+04
TE 129	PART.	TELLURM	9.16100E+03	5.97541E-01	1.01750E-02	1.88335E+00	7.73300E+01
TE 129M	PART.	TELLURM	1.99000E+03	8.59558E-04	4.58264E+00	1.42438E+03	5.87235E+04
TE 131M	PART.	TELLURM	4.07900E+03	2.31049E-02	1.56193E+00	4.83350E+05	1.97729E+04
TE 132	PART.	TELLURM	3.90800E+04	8.86378E-03	1.42513E+01	4.53172E+05	2.25061E+04
TE 133M	PART.	TELLURM	2.06800E+04	8.31600E-01	5.24691E-01	1.89733E+04	7.17460E+02
TE 134	PART.	TELLURM	4.68800E+04	9.90000E-01	5.41680E-01	2.90968E+03	2.24590E+02
I 131	ELEM.	HALOGENS	1.33715E+03	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	ORG.	HALOGENS	4.13550E+01	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 131	PART.	HALOGENS	2.61915E+04	3.59218E-03	6.73400E-02	1.08040E+06	3.28930E+04
I 132	ELEM.	HALOGENS	1.92885E+03	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	ORG.	HALOGENS	5.96550E+01	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 132	PART.	HALOGENS	3.77815E+04	3.01368E-01	4.14400E-01	6.43800E+03	3.81100E+02
I 133	ELEM.	HALOGENS	2.67429E+03	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	ORG.	HALOGENS	8.27100E+01	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 133	PART.	HALOGENS	5.23830E+04	3.33244E-02	1.08780E-01	1.79820E+05	5.84600E+03
I 134	ELEM.	HALOGENS	2.94589E+03	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	ORG.	HALOGENS	9.11100E+01	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02
I 134	PART.	HALOGENS	5.77030E+04	7.90662E-01	4.81000E-01	1.06560E+03	1.31350E+02

DATA FROM NUCLIDE FILE rstfgr1.dat

ISOTOPE NAME	SPLIT	GROUP	SOURCE (CI/MWT)	DECAY CONST (1/HR)	DOSE CONVERSION FACTORS		
					WHOLEBDY	THYROID	INHALATN
I 135	ELEM.	HALOGENS	2.49921E+03	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	ORG.	HALOGENS	7.72950E+01	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
I 135	PART.	HALOGENS	4.89535E+04	1.04863E-01	3.06878E-01	3.13020E+04	1.22840E+03
XE 133	ELEM.	NOBLES	5.42500E+04	5.50641E-03	5.77200E-03	0.00000E+00	0.00000E+00
XE 135	ELEM.	NOBLES	2.15400E+04	7.62538E-02	4.40300E-02	0.00000E+00	0.00000E+00

CS 134	PART. ALKMETAL	8.19400E+03	3.83473E-05	2.80090E-01	4.10700E+04	4.62500E+04
CS 136	PART. ALKMETAL	2.40400E+03	2.20467E-03	3.92200E-01	6.40100E+03	7.32600E+03
CS 137	PART. ALKMETAL	4.19700E+03	2.63574E-06	1.00825E-01	2.93410E+04	3.19310E+04
CS 138	PART. ALKMETAL	5.10200E+04	1.29132E+00	4.47700E-01	1.32090E+01	1.01380E+02
BA 139	PART. BARSTRNT	4.99400E+04	5.02888E-01	8.02900E-03	8.88000E+00	1.71680E+02
BA 140	PART. BARSTRNT	4.92700E+04	2.26696E-03	3.17460E-02	9.47200E+02	3.73700E+03
LA 140	PART. LANTHANM	5.06900E+04	1.72116E-02	4.32900E-01	2.54190E+02	4.84700E+03
LA 141	PART. LANTHANM	4.64200E+04	1.76373E-01	8.84300E-03	3.47800E+01	5.80900E+02
LA 142	PART. LANTHANM	4.46600E+04	4.49609E-01	5.32800E-01	3.23380E+01	2.53080E+02
CE 141	PART. CERIUM	4.56800E+04	8.88623E-04	1.26910E-02	9.43500E+01	8.95400E+03
CE 143	PART. CERIUM	4.35500E+04	2.10045E-02	4.77300E-02	2.30510E+01	3.38920E+03
CE 144	PART. CERIUM	3.57500E+04	1.01587E-04	1.02601E-02	1.08040E+03	3.73700E+05
PR 143	PART. LANTHANM	4.26300E+04	2.12988E-03	7.77000E-05	6.21600E-06	8.10300E+03
ND 147	PART. LANTHANM	1.90500E+04	2.63034E-03	2.29030E-02	6.73400E+01	6.84500E+03
NP 238	PART. CERIUM	1.58000E+04	1.37484E-02	1.00640E-01	9.06500E+01	3.70000E+04
NP 239	PART. CERIUM	6.57000E+05	1.22637E-02	2.84530E-02	2.81940E+01	2.50860E+03
PU 238	PART. CERIUM	1.89500E+02	9.01211E-07	1.80560E-05	1.42820E+03	2.88230E+08
PU 239	PART. CERIUM	1.36600E+01	3.28578E-09	1.56880E-05	1.38750E+03	3.08210E+08
PU 240	PART. CERIUM	2.06900E+01	1.20961E-08	1.75750E-05	1.39120E+03	3.08210E+08
PU 241	PART. CERIUM	5.55000E+03	5.49113E-06	2.68250E-07	3.38550E+01	4.95800E+06
AM 241	PART. LANTHANM	7.13000E+00	1.82953E-07	3.02660E-03	5.92000E+03	4.44000E+08
CM 242	PART. LANTHANM	2.16900E+03	1.77403E-04	2.10530E-05	3.48170E+03	1.72790E+07
CM 244	PART. LANTHANM	4.57800E+02	4.36622E-06	1.81670E-05	3.73700E+03	2.47900E+08

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	0.00000E+00	1.66700E-02
RELEASE FRACTION	1	0	0	0	1	1.00000E-01	
RELEASE FRACTION	2	0	0	0	1	1.00000E-01	
RELEASE FRACTION	3	0	0	0	1	1.00000E-01	
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.60000E+03	0.00000E+00	2.30200E+00				
TRANSFER PERCENT	0	0	0	2	5	3.85000E-01	0.00000E+00
0.00000E+00	3.20000E+03	0.00000E+00					
TRANSFER PERCENT	0	0	0	3	5	3.85000E-01	0.00000E+00
4.80000E+03	0.00000E+00	0.00000E+00					
REMOVAL RATE	2	1	0	0	3	8.66000E-01	6.82300E-01
1.09200E+00							
REMOVAL RATE	2	3	0	0	1	7.47400E-01	
REMOVAL RATE	3	3	0	0	1	7.47400E-01	
REMOVAL RATE	4	3	0	0	1	7.47400E-01	
REMOVAL RATE	5	3	0	0	1	7.47400E-01	
REMOVAL RATE	6	3	0	0	1	7.47400E-01	
REMOVAL RATE	7	3	0	0	1	7.47400E-01	
REMOVAL RATE	8	3	0	0	1	7.47400E-01	
TRANSFER CFM	0	0	0	4	1	1.00000E-03	
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	0.00000E+00	1.00000E+00					
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
1.25000E-04	3.50000E-04	7.50000E-03	3.50000E-04	0.00000E+00			
TIME INTERVAL	0	0	0	0	2	1.66700E-02	1.00000E-01
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00	3.20000E+03	3.85000E-01					
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
4.80000E+03	0.00000E+00	3.85000E-01					
TRANSFER CFM	0	0	0	4	1	4.00100E+03	
FILTER EFF	2	1	0	4	1	9.89750E+01	
FILTER EFF	2	2	0	4	1	9.89750E+01	
FILTER EFF	2	3	0	4	1	9.89750E+01	
FILTER EFF	3	3	0	4	1	9.89750E+01	
FILTER EFF	4	3	0	4	1	9.89750E+01	
FILTER EFF	5	3	0	4	1	9.89750E+01	
FILTER EFF	6	3	0	4	1	9.89750E+01	
FILTER EFF	7	3	0	4	1	9.89750E+01	
FILTER EFF	8	3	0	4	1	9.89750E+01	
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
1.25000E-04	3.50000E-04	8.00000E-04	3.50000E-04	0.00000E+00			
TIME INTERVAL	0	0	0	0	2	1.00000E-01	2.00000E-01
TIME INTERVAL	0	0	0	0	2	2.00000E-01	3.00000E-01
TIME INTERVAL	0	0	0	0	2	3.00000E-01	4.00000E-01
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.60000E+03	2.30200E+00	0.00000E+00				
TRANSFER PERCENT	0	0	0	5	5	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00	1.00000E+06					
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	4.00000E+03	1.00000E+00					
CR FILTER EFF	2	1	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	2	0	0	2	0.00000E+00	0.00000E+00
CR FILTER EFF	2	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	3	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	4	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	5	3	0	0	2	9.90000E+01	9.90000E+01

TIME DEPENDENT INPUT  
CASE NUMBER 1

CR FILTER EFF	6	3	0	0	2	9.90000E+01	9.90000E+01
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CR FILTER EFF	7	3	0	0	2	9.90000E+01	9.90000E+01
CR FILTER EFF	8	3	0	0	2	9.90000E+01	9.90000E+01
TIME INTERVAL	0	0	0	0	2	4.00000E-01	5.00000E-01
TIME INTERVAL	0	0	0	0	2	5.00000E-01	6.00000E-01
RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	
RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
REMOVAL RATE	2	1	0	0	3	8.66000E-01	2.06800E+01
1.09200E+00							
REMOVAL RATE	2	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	3	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	4	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	5	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	6	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	7	3	0	0	2	2.98300E-01	9.51000E+00
REMOVAL RATE	8	3	0	0	2	2.98300E-01	9.51000E+00
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00 1.20000E+04 3.85000E-01							
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
1.80000E+04 0.00000E+00 3.85000E-01							
TIME INTERVAL	0	0	0	0	2	6.00000E-01	7.00000E-01
TIME INTERVAL	0	0	0	0	2	7.00000E-01	8.00000E-01
TIME INTERVAL	0	0	0	0	2	8.00000E-01	9.00000E-01
TIME INTERVAL	0	0	0	0	2	9.00000E-01	1.00000E+00
TIME INTERVAL	0	0	0	0	2	1.00000E+00	1.10000E+00
RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	
RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
TIME INTERVAL	0	0	0	0	2	1.10000E+00	1.20000E+00
TIME INTERVAL	0	0	0	0	2	1.20000E+00	1.30000E+00
TIME INTERVAL	0	0	0	0	2	1.30000E+00	1.40000E+00
TIME INTERVAL	0	0	0	0	2	1.40000E+00	1.50000E+00
TIME INTERVAL	0	0	0	0	2	1.50000E+00	1.60000E+00
RELEASE FRACTION	1	0	0	0	1	6.33300E-01	
RELEASE FRACTION	2	0	0	0	1	1.66700E-01	
RELEASE FRACTION	3	0	0	0	1	1.33300E-01	
RELEASE FRACTION	4	0	0	0	1	3.33300E-02	
RELEASE FRACTION	5	0	0	0	1	1.33300E-02	
RELEASE FRACTION	6	0	0	0	1	1.66700E-03	
RELEASE FRACTION	7	0	0	0	1	1.33300E-04	
RELEASE FRACTION	8	0	0	0	1	3.33300E-04	
TIME INTERVAL	0	0	0	0	2	1.60000E+00	1.70000E+00
TIME INTERVAL	0	0	0	0	2	1.70000E+00	1.80000E+00
TIME INTERVAL	0	0	0	0	2	1.80000E+00	1.90000E+00
TIME INTERVAL	0	0	0	0	2	1.90000E+00	2.00000E+00

TIME DEPENDENT INPUT  
CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	2.00000E+00	2.00028E+00
RELEASE FRACTION	1	0	0	0	1	0.00000E+00	
RELEASE FRACTION	2	0	0	0	1	0.00000E+00	
RELEASE FRACTION	3	0	0	0	1	0.00000E+00	
RELEASE FRACTION	4	0	0	0	1	0.00000E+00	
RELEASE FRACTION	5	0	0	0	1	0.00000E+00	
RELEASE FRACTION	6	0	0	0	1	0.00000E+00	
RELEASE FRACTION	7	0	0	0	1	0.00000E+00	
RELEASE FRACTION	8	0	0	0	1	0.00000E+00	

TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	1.00000E+10	2.30200E+00	0.00000E+00				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	4.82100E+09
1.80000E+04	0.00000E+00	3.85000E-01					
REMOVAL RATE	2	3	0	0	1	1.05500E+00	
REMOVAL RATE	3	3	0	0	1	1.05500E+00	
REMOVAL RATE	4	3	0	0	1	1.05500E+00	
REMOVAL RATE	5	3	0	0	1	1.05500E+00	
REMOVAL RATE	6	3	0	0	1	1.05500E+00	
REMOVAL RATE	7	3	0	0	1	1.05500E+00	
REMOVAL RATE	8	3	0	0	1	1.05500E+00	
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
6.00000E-05	3.50000E-04	5.00000E-04	3.50000E-04	0.00000E+00			
TIME INTERVAL	0	0	0	0	2	2.00028E+00	2.10000E+00
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00	2.30200E+00	0.00000E+00				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
1.80000E+04	0.00000E+00	3.85000E-01					
TIME INTERVAL	0	0	0	0	2	2.10000E+00	2.20000E+00
TIME INTERVAL	0	0	0	0	2	2.20000E+00	2.30000E+00
TIME INTERVAL	0	0	0	0	2	2.30000E+00	2.40000E+00
TIME INTERVAL	0	0	0	0	2	2.40000E+00	2.50000E+00
TIME INTERVAL	0	0	0	0	2	2.50000E+00	2.60000E+00
TIME INTERVAL	0	0	0	0	2	2.60000E+00	2.70000E+00
TIME INTERVAL	0	0	0	0	2	2.70000E+00	2.80000E+00
TIME INTERVAL	0	0	0	0	2	2.80000E+00	2.90000E+00
REMOVAL RATE	2	1	0	0	3	8.66000E-01	0.00000E+00
0.00000E+00							
TIME INTERVAL	0	0	0	0	2	2.90000E+00	3.00000E+00
TIME INTERVAL	0	0	0	0	2	3.00000E+00	3.10000E+00
REMOVAL RATE	2	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	3	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	4	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	5	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	6	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	7	3	0	0	2	1.05500E+00	9.51000E-01
REMOVAL RATE	8	3	0	0	2	1.05500E+00	9.51000E-01
TIME INTERVAL	0	0	0	0	2	3.10000E+00	3.20000E+00
TIME INTERVAL	0	0	0	0	2	3.20000E+00	3.30000E+00
TIME INTERVAL	0	0	0	0	2	3.30000E+00	3.40000E+00
TIME INTERVAL	0	0	0	0	2	3.40000E+00	3.50000E+00
TIME INTERVAL	0	0	0	0	2	3.50000E+00	3.60000E+00
TIME INTERVAL	0	0	0	0	2	3.60000E+00	3.70000E+00
TIME INTERVAL	0	0	0	0	2	3.70000E+00	3.80000E+00
TIME INTERVAL	0	0	0	0	2	3.80000E+00	3.90000E+00
TIME INTERVAL	0	0	0	0	2	3.90000E+00	4.00000E+00
TIME INTERVAL	0	0	0	0	2	4.00000E+00	4.10000E+00

## TIME DEPENDENT INPUT

CASE NUMBER 1

TIME INTERVAL	0	0	0	0	2	4.10000E+00	4.20000E+00
TIME INTERVAL	0	0	0	0	2	4.20000E+00	4.30000E+00
TIME INTERVAL	0	0	0	0	2	4.30000E+00	4.40000E+00
TIME INTERVAL	0	0	0	0	2	4.40000E+00	4.50000E+00
TIME INTERVAL	0	0	0	0	2	4.50000E+00	4.60000E+00
TIME INTERVAL	0	0	0	0	2	4.60000E+00	4.70000E+00
TIME INTERVAL	0	0	0	0	2	4.70000E+00	4.80000E+00
TIME INTERVAL	0	0	0	0	2	4.80000E+00	4.90000E+00
TIME INTERVAL	0	0	0	0	2	4.90000E+00	5.00000E+00
TIME INTERVAL	0	0	0	0	2	5.00000E+00	5.10000E+00
REMOVAL RATE	2	3	0	0	1	6.39000E-01	
REMOVAL RATE	3	3	0	0	1	6.39000E-01	
REMOVAL RATE	4	3	0	0	1	6.39000E-01	
REMOVAL RATE	5	3	0	0	1	6.39000E-01	
REMOVAL RATE	6	3	0	0	1	6.39000E-01	
REMOVAL RATE	7	3	0	0	1	6.39000E-01	
REMOVAL RATE	8	3	0	0	1	6.39000E-01	

TIME INTERVAL	0	0	0	0	2	5.10000E+00	5.20000E+00
TIME INTERVAL	0	0	0	0	2	5.20000E+00	5.30000E+00
TIME INTERVAL	0	0	0	0	2	5.30000E+00	5.40000E+00
TIME INTERVAL	0	0	0	0	2	5.40000E+00	5.50000E+00
TIME INTERVAL	0	0	0	0	2	5.50000E+00	5.60000E+00
TIME INTERVAL	0	0	0	0	2	5.60000E+00	5.70000E+00
TIME INTERVAL	0	0	0	0	2	5.70000E+00	5.80000E+00
TIME INTERVAL	0	0	0	0	2	5.80000E+00	5.90000E+00
TIME INTERVAL	0	0	0	0	2	5.90000E+00	6.00000E+00
TIME INTERVAL	0	0	0	0	2	6.00000E+00	7.00000E+00
TIME INTERVAL	0	0	0	0	2	7.00000E+00	8.00000E+00
REMOVAL RATE	2	1	0	0	3	0.00000E+00	0.00000E+00
0.00000E+00							
TIME INTERVAL	0	0	0	0	2	8.00000E+00	8.33000E+00
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
4.50000E-05	1.80000E-04		2.50000E-04		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	8.33000E+00	1.20000E+01
REMOVAL RATE	2	3	0	0	1	5.57100E-01	
REMOVAL RATE	3	3	0	0	1	5.57100E-01	
REMOVAL RATE	4	3	0	0	1	5.57100E-01	
REMOVAL RATE	5	3	0	0	1	5.57100E-01	
REMOVAL RATE	6	3	0	0	1	5.57100E-01	
REMOVAL RATE	7	3	0	0	1	5.57100E-01	
REMOVAL RATE	8	3	0	0	1	5.57100E-01	
TIME INTERVAL	0	0	0	0	2	1.20000E+01	1.94000E+01
REMOVAL RATE	2	3	0	0	1	5.23600E-01	
REMOVAL RATE	3	3	0	0	1	5.23600E-01	
REMOVAL RATE	4	3	0	0	1	5.23600E-01	
REMOVAL RATE	5	3	0	0	1	5.23600E-01	
REMOVAL RATE	6	3	0	0	1	5.23600E-01	
REMOVAL RATE	7	3	0	0	1	5.23600E-01	
REMOVAL RATE	8	3	0	0	1	5.23600E-01	
TIME INTERVAL	0	0	0	0	2	1.94000E+01	2.40000E+01
REMOVAL RATE	2	3	0	0	1	5.06800E-01	
REMOVAL RATE	3	3	0	0	1	5.06800E-01	
REMOVAL RATE	4	3	0	0	1	5.06800E-01	
REMOVAL RATE	5	3	0	0	1	5.06800E-01	
REMOVAL RATE	6	3	0	0	1	5.06800E-01	
REMOVAL RATE	7	3	0	0	1	5.06800E-01	

TIME DEPENDENT INPUT  
CASE NUMBER 1

REMOVAL RATE	8	3	0	0	1	5.06800E-01	
TIME INTERVAL	0	0	0	0	2	2.40000E+01	7.20000E+01
REMOVAL RATE	2	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	3	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	4	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	5	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	6	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	7	3	0	0	2	0.00000E+00	0.00000E+00
REMOVAL RATE	8	3	0	0	2	0.00000E+00	0.00000E+00
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00	3.20000E+03		3.85000E-01				
TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
4.80000E+03	0.00000E+00		3.85000E-01				
CONTROL ROOM	0	0	0	0	5	2.01000E+03	0.00000E+00
2.01000E+03	4.00000E+03		6.00000E-01				
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
2.00000E-05	2.30000E-04		1.60000E-04		3.50000E-04	0.00000E+00	
TIME INTERVAL	0	0	0	0	2	7.20000E+01	9.60000E+01
CONTROL ROOM	0	0	0	0	5	1.00000E+01	4.00000E+03
4.01000E+03	0.00000E+00		6.00000E-01				
TIME INTERVAL	0	0	0	0	2	9.60000E+01	7.20000E+02
TRANSFER PERCENT	0	0	0	1	6	0.00000E+00	0.00000E+00
0.00000E+00	0.00000E+00		1.47500E+00		0.00000E+00		
TRANSFER PERCENT	0	0	0	2	5	0.00000E+00	0.00000E+00
0.00000E+00	3.20000E+03		1.92500E-01				

TRANSFER PERCENT	0	0	0	3	5	0.00000E+00	0.00000E+00
4.80000E+03	0.00000E+00		1.92500E-01				
CONTROL ROOM	0	0	0	0	5	1.00000E+01	4.00000E+03
4.01000E+03	0.00000E+00		4.00000E-01				
DOSE PARAMS	0	0	0	0	7	6.00000E-04	3.50000E-04
7.00000E-06	2.30000E-04		1.30000E-04			3.50000E-04	0.00000E+00

ACTIVITIES (CI) AT END OF TIME STEP 22

CASE NUMBER 1

STEP START TIME AT 2.000E+00 (HRS) STEP END TIME AT 2.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.939E+08	3.939E+08	1.010E+08	8.329E+07	2.095E+08	1.532E+05	1.665E-18
HALOGENS	ELEM.	1.058E+08	3.532E+06	1.120E+06	8.769E+04	2.322E+06	2.344E+03	6.663E-20
	ORG.		2.880E+05	7.168E+04	6.755E+04	1.487E+05	1.173E+02	9.042E-22
	PART.		1.019E+08	3.133E+07	5.555E+06	6.499E+07	5.916E+04	1.854E-18
ALKMETAL	PART.	1.078E+07	1.078E+07	3.312E+06	5.889E+05	6.871E+06	6.398E+03	1.095E-19
TELLURM	PART.	1.147E+07	1.147E+07	3.531E+06	6.065E+05	7.324E+06	5.865E+03	1.172E-19
BARSTRNT	PART.	7.667E+06	7.667E+06	2.361E+06	4.061E+05	4.896E+06	3.928E+03	6.899E-20
NOBMETAL	PART.	1.269E+06	1.269E+06	3.906E+05	6.733E+04	8.101E+05	6.516E+02	2.074E-20
LANTHANM	PART.	1.993E+05	1.993E+05	6.136E+04	1.057E+04	1.273E+05	1.023E+02	2.240E-21
CERIUM	PART.	9.635E+05	9.635E+05	2.966E+05	5.118E+04	6.152E+05	4.954E+02	4.110E-21

ACTIVITIES (CI) AT END OF TIME STEP 30

CASE NUMBER 1

STEP START TIME AT 2.700E+00 (HRS) STEP END TIME AT 2.800E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.665E+08	3.665E+08	9.391E+07	1.635E+08	1.090E+08	1.543E+05	1.014E-29
HALOGENS	ELEM.	1.607E+07	5.129E+05	4.982E+05	3.727E+03	9.469E+03	1.531E+03	0.000E+00
	ORG.		2.565E+05	6.380E+04	1.156E+05	7.706E+04	1.095E+02	0.000E+00
	PART.		1.531E+07	1.199E+07	1.360E+06	1.915E+06	3.985E+04	0.000E+00
ALKMETAL	PART.	1.503E+06	1.503E+06	1.178E+06	1.336E+05	1.881E+05	3.988E+03	0.000E+00
TELLURM	PART.	1.737E+06	1.737E+06	1.361E+06	1.542E+05	2.171E+05	4.147E+03	0.000E+00
BARSTRNT	PART.	1.185E+06	1.185E+06	9.289E+05	1.052E+05	1.482E+05	2.830E+03	0.000E+00
NOBMETAL	PART.	2.068E+05	2.068E+05	1.621E+05	1.837E+04	2.586E+04	4.946E+02	0.000E+00
LANTHANM	PART.	3.209E+04	3.209E+04	2.515E+04	2.850E+03	4.013E+03	7.672E+01	0.000E+00
CERIUM	PART.	1.612E+05	1.612E+05	1.263E+05	1.431E+04	2.015E+04	3.857E+02	0.000E+00

ACTIVITIES (CI) AT END OF TIME STEP 32

CASE NUMBER 1

STEP START TIME AT 2.900E+00 (HRS) STEP END TIME AT 3.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	3.606E+08	3.606E+08	9.238E+07	1.608E+08	1.072E+08	1.537E+05	1.003E-29
HALOGENS	ELEM.	1.163E+07	4.228E+05	4.086E+05	7.386E+03	5.483E+03	1.352E+03	0.000E+00
	ORG.		2.502E+05	6.222E+04	1.128E+05	7.517E+04	1.077E+02	0.000E+00
	PART.		1.095E+07	9.469E+06	6.021E+05	8.478E+05	3.505E+04	0.000E+00
ALKMETAL	PART.	1.074E+06	1.074E+06	9.284E+05	5.905E+04	8.315E+04	3.500E+03	0.000E+00
TELLURM	PART.	1.249E+06	1.249E+06	1.080E+06	6.862E+04	9.663E+04	3.686E+03	0.000E+00
BARSTRNT	PART.	8.528E+05	8.528E+05	7.375E+05	4.684E+04	6.596E+04	2.516E+03	0.000E+00
NOBMETAL	PART.	1.505E+05	1.505E+05	1.301E+05	8.267E+03	1.164E+04	4.445E+02	0.000E+00
LANTHANM	PART.	2.330E+04	2.330E+04	2.015E+04	1.280E+03	1.802E+03	6.878E+01	0.000E+00
CERIUM	PART.	1.180E+05	1.180E+05	1.020E+05	6.481E+03	9.126E+03	3.487E+02	0.000E+00

ACTIVITIES (CI) AT END OF TIME STEP 63

CASE NUMBER 1

STEP START TIME AT 6.000E+00 (HRS) STEP END TIME AT 7.000E+00 (HRS)

ACTIVITY DISTRIBUTION IN THE NODES MODELED  
BY CHEMICAL/PHYSICAL FORM AND GROUP

GROUP	FORM	TOTAL BY	TOTAL BY	Drywell	Sprayed	Unsprayd	Sec_Cont	MSIV_Vol
NOBLES	ELEM.	2.865E+08	2.865E+08	7.320E+07	1.279E+08	8.527E+07	1.302E+05	7.934E-30
HALOGENS	ELEM.	5.449E+05	1.848E+04	9.157E+03	5.546E+03	3.697E+03	8.167E+01	0.000E+00
	ORG.		1.799E+05	4.461E+04	8.112E+04	5.408E+04	8.050E+01	0.000E+00
	PART.		3.466E+05	2.291E+05	6.720E+04	4.836E+04	1.868E+03	0.000E+00
ALKMETAL	PART.	4.289E+04	4.289E+04	2.835E+04	8.317E+03	5.986E+03	2.335E+02	0.000E+00
TELLURM	PART.	4.659E+04	4.659E+04	3.082E+04	9.029E+03	6.498E+03	2.404E+02	0.000E+00
BARSTRNT	PART.	2.930E+04	2.930E+04	1.938E+04	5.678E+03	4.087E+03	1.512E+02	0.000E+00
NOBMETAL	PART.	5.736E+03	5.736E+03	3.795E+03	1.112E+03	8.001E+02	2.960E+01	0.000E+00
LANTHANM	PART.	8.746E+02	8.746E+02	5.786E+02	1.695E+02	1.220E+02	4.513E+00	0.000E+00
CERIUM	PART.	4.958E+03	4.958E+03	3.280E+03	9.608E+02	6.915E+02	2.559E+01	0.000E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR WHOLEBDY DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	2.120E-06	2.120E-06	4.416E-07	4.416E-07	5.980E-09	5.980E-09
1.667E-02	1.057E-06	3.177E-06	2.202E-07	6.618E-07	5.862E-08	6.460E-08
1.000E-01	1.529E-05	1.846E-05	3.185E-06	3.846E-06	9.282E-08	1.574E-07
2.000E-01	6.267E-05	8.113E-05	1.306E-05	1.690E-05	2.217E-07	3.791E-07
3.000E-01	1.233E-02	1.241E-02	2.569E-03	2.586E-03	2.209E-05	2.247E-05
4.000E-01	1.898E-02	3.139E-02	3.955E-03	6.541E-03	7.507E-05	9.754E-05
5.000E-01	2.796E-02	5.935E-02	5.824E-03	1.236E-02	1.512E-04	2.487E-04
6.000E-01	4.534E-02	1.047E-01	9.446E-03	2.181E-02	2.676E-04	5.164E-04
7.000E-01	7.107E-02	1.758E-01	1.481E-02	3.662E-02	4.507E-04	9.671E-04
8.000E-01	1.035E-01	2.793E-01	2.157E-02	5.819E-02	7.217E-04	1.689E-03
9.000E-01	1.413E-01	4.206E-01	2.944E-02	8.763E-02	1.095E-03	2.784E-03
1.000E+00	1.830E-01	6.036E-01	3.812E-02	1.258E-01	1.580E-03	4.364E-03
1.100E+00	2.266E-01	8.303E-01	4.722E-02	1.730E-01	2.178E-03	6.543E-03
1.200E+00	2.714E-01	1.102E+00	5.654E-02	2.295E-01	2.887E-03	9.430E-03
1.300E+00	3.168E-01	1.418E+00	6.600E-02	2.955E-01	3.701E-03	1.313E-02
1.400E+00	3.624E-01	1.781E+00	7.550E-02	3.710E-01	4.616E-03	1.775E-02
1.500E+00	4.077E-01	2.189E+00	8.494E-02	4.560E-01	5.622E-03	2.337E-02
1.600E+00	4.516E-01	2.640E+00	9.409E-02	5.500E-01	6.713E-03	3.008E-02
1.700E+00	4.940E-01	3.134E+00	1.029E-01	6.530E-01	7.875E-03	3.796E-02
1.800E+00	5.347E-01	3.669E+00	1.114E-01	7.644E-01	9.100E-03	4.706E-02
1.900E+00	5.739E-01	4.243E+00	1.196E-01	8.839E-01	1.038E-02	5.743E-02
2.000E+00	1.660E-03	4.244E+00	1.660E-04	8.841E-01	3.084E-05	5.746E-02
2.000E+00	5.879E-01	4.832E+00	5.879E-02	9.429E-01	1.124E-02	6.870E-02
2.100E+00	5.821E-01	5.414E+00	5.821E-02	1.001E+00	1.173E-02	8.043E-02
2.200E+00	5.741E-01	5.989E+00	5.741E-02	1.058E+00	1.215E-02	9.258E-02
2.300E+00	5.656E-01	6.554E+00	5.656E-02	1.115E+00	1.252E-02	1.051E-01
2.400E+00	5.566E-01	7.111E+00	5.566E-02	1.171E+00	1.285E-02	1.180E-01
2.500E+00	5.474E-01	7.658E+00	5.474E-02	1.225E+00	1.314E-02	1.311E-01
2.600E+00	5.380E-01	8.196E+00	5.380E-02	1.279E+00	1.339E-02	1.445E-01
2.700E+00	5.285E-01	8.725E+00	5.285E-02	1.332E+00	1.361E-02	1.581E-01
2.800E+00	5.188E-01	9.244E+00	5.188E-02	1.384E+00	1.379E-02	1.719E-01
2.900E+00	5.091E-01	9.753E+00	5.091E-02	1.435E+00	1.394E-02	1.858E-01
3.000E+00	4.994E-01	1.025E+01	4.994E-02	1.485E+00	1.406E-02	1.999E-01
3.100E+00	4.898E-01	1.074E+01	4.898E-02	1.534E+00	1.416E-02	2.140E-01
3.200E+00	4.802E-01	1.122E+01	4.802E-02	1.582E+00	1.423E-02	2.283E-01
3.300E+00	4.707E-01	1.169E+01	4.707E-02	1.629E+00	1.428E-02	2.426E-01
3.400E+00	4.613E-01	1.215E+01	4.613E-02	1.675E+00	1.430E-02	2.569E-01
3.500E+00	4.520E-01	1.261E+01	4.520E-02	1.720E+00	1.431E-02	2.712E-01
3.600E+00	4.428E-01	1.305E+01	4.428E-02	1.765E+00	1.430E-02	2.855E-01
3.700E+00	4.338E-01	1.348E+01	4.338E-02	1.808E+00	1.427E-02	2.997E-01
3.800E+00	4.250E-01	1.391E+01	4.250E-02	1.850E+00	1.423E-02	3.140E-01
3.900E+00	4.162E-01	1.432E+01	4.162E-02	1.892E+00	1.417E-02	3.281E-01
4.000E+00	4.077E-01	1.473E+01	4.077E-02	1.933E+00	1.410E-02	3.422E-01
4.100E+00	3.993E-01	1.513E+01	3.993E-02	1.973E+00	1.402E-02	3.563E-01
4.200E+00	3.911E-01	1.552E+01	3.911E-02	2.012E+00	1.393E-02	3.702E-01
4.300E+00	3.830E-01	1.590E+01	3.830E-02	2.050E+00	1.383E-02	3.840E-01
4.400E+00	3.751E-01	1.628E+01	3.751E-02	2.088E+00	1.373E-02	3.978E-01
4.500E+00	3.674E-01	1.665E+01	3.674E-02	2.124E+00	1.361E-02	4.114E-01
4.600E+00	3.599E-01	1.701E+01	3.599E-02	2.160E+00	1.349E-02	4.249E-01
4.700E+00	3.525E-01	1.736E+01	3.525E-02	2.196E+00	1.336E-02	4.382E-01
4.800E+00	3.453E-01	1.771E+01	3.453E-02	2.230E+00	1.323E-02	4.515E-01
4.900E+00	3.382E-01	1.804E+01	3.382E-02	2.264E+00	1.309E-02	4.645E-01
5.000E+00	3.313E-01	1.837E+01	3.313E-02	2.297E+00	1.295E-02	4.775E-01
5.100E+00	3.246E-01	1.870E+01	3.246E-02	2.330E+00	1.280E-02	4.903E-01
5.200E+00	3.181E-01	1.902E+01	3.181E-02	2.361E+00	1.265E-02	5.030E-01
5.300E+00	3.117E-01	1.933E+01	3.117E-02	2.393E+00	1.250E-02	5.155E-01
5.400E+00	3.054E-01	1.963E+01	3.054E-02	2.423E+00	1.235E-02	5.278E-01
5.500E+00	2.994E-01	1.993E+01	2.994E-02	2.453E+00	1.220E-02	5.400E-01

5.600E+00	2.934E-01	2.023E+01	2.934E-02	2.482E+00	1.204E-02	5.520E-01
5.700E+00	2.876E-01	2.051E+01	2.876E-02	2.511E+00	1.189E-02	5.639E-01
5.800E+00	2.820E-01	2.080E+01	2.820E-02	2.539E+00	1.173E-02	5.757E-01
5.900E+00	2.764E-01	2.107E+01	2.764E-02	2.567E+00	1.157E-02	5.872E-01
6.000E+00	2.489E+00	2.356E+01	2.489E-01	2.816E+00	1.065E-01	6.937E-01
7.000E+00	2.066E+00	2.563E+01	2.066E-01	3.022E+00	9.224E-02	7.860E-01
8.000E+00	6.052E-01	2.623E+01	4.539E-02	3.068E+00	2.665E-02	8.126E-01
8.330E+00	4.962E+00	3.120E+01	3.722E-01	3.440E+00	1.612E-01	9.739E-01
1.200E+01	5.216E+00	3.641E+01	3.912E-01	3.831E+00	1.258E-01	1.100E+00
1.940E+01	2.024E+00	3.844E+01	1.518E-01	3.983E+00	5.094E-02	1.151E+00
2.400E+01	1.141E+01	4.985E+01	3.804E-01	4.363E+00	1.009E-01	1.252E+00
7.200E+01	3.879E+00	5.373E+01	1.293E-01	4.493E+00	3.524E-02	1.287E+00
9.600E+01	1.452E+01	6.824E+01	1.694E-01	4.662E+00	7.147E-02	1.358E+00
	TOTAL	6.824E+01	TOTAL	4.662E+00	TOTAL	1.358E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR THYROID DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	2.837E-04	2.837E-04	5.911E-05	5.911E-05	1.405E-05	1.405E-05
1.667E-02	1.187E-05	2.956E-04	2.473E-06	6.158E-05	1.378E-04	1.518E-04
1.000E-01	1.722E-04	4.678E-04	3.588E-05	9.746E-05	1.638E-04	3.156E-04
2.000E-01	7.082E-04	1.176E-03	1.475E-04	2.450E-04	1.833E-04	4.989E-04
3.000E-01	1.366E-01	1.378E-01	2.847E-02	2.871E-02	4.336E-03	4.835E-03
4.000E-01	2.096E-01	3.474E-01	4.367E-02	7.238E-02	1.410E-02	1.894E-02
5.000E-01	2.932E-01	6.407E-01	6.109E-02	1.335E-01	2.726E-02	4.620E-02
6.000E-01	4.026E-01	1.043E+00	8.387E-02	2.173E-01	4.447E-02	9.067E-02
7.000E-01	5.364E-01	1.580E+00	1.117E-01	3.291E-01	6.669E-02	1.574E-01
8.000E-01	6.899E-01	2.269E+00	1.437E-01	4.728E-01	9.460E-02	2.520E-01
9.000E-01	8.587E-01	3.128E+00	1.789E-01	6.517E-01	1.285E-01	3.804E-01
1.000E+00	1.039E+00	4.167E+00	2.165E-01	8.682E-01	1.684E-01	5.488E-01
1.100E+00	1.228E+00	5.395E+00	2.558E-01	1.124E+00	2.141E-01	7.629E-01
1.200E+00	1.422E+00	6.817E+00	2.962E-01	1.420E+00	2.653E-01	1.028E+00
1.300E+00	1.619E+00	8.436E+00	3.373E-01	1.757E+00	3.215E-01	1.350E+00
1.400E+00	1.817E+00	1.025E+01	3.786E-01	2.136E+00	3.822E-01	1.732E+00
1.500E+00	2.015E+00	1.227E+01	4.198E-01	2.556E+00	4.468E-01	2.179E+00
1.600E+00	2.211E+00	1.448E+01	4.606E-01	3.016E+00	5.148E-01	2.693E+00
1.700E+00	2.403E+00	1.688E+01	5.006E-01	3.517E+00	5.856E-01	3.279E+00
1.800E+00	2.591E+00	1.947E+01	5.399E-01	4.057E+00	6.586E-01	3.938E+00
1.900E+00	2.775E+00	2.225E+01	5.781E-01	4.635E+00	7.332E-01	4.671E+00
2.000E+00	8.018E-03	2.226E+01	8.018E-04	4.636E+00	2.155E-03	4.673E+00
2.000E+00	2.837E+00	2.509E+01	2.837E-01	4.920E+00	7.712E-01	5.444E+00
2.100E+00	2.789E+00	2.788E+01	2.789E-01	5.198E+00	7.785E-01	6.223E+00
2.200E+00	2.713E+00	3.060E+01	2.713E-01	5.470E+00	7.806E-01	7.003E+00
2.300E+00	2.622E+00	3.322E+01	2.622E-01	5.732E+00	7.796E-01	7.783E+00
2.400E+00	2.522E+00	3.574E+01	2.522E-01	5.984E+00	7.752E-01	8.558E+00
2.500E+00	2.416E+00	3.816E+01	2.416E-01	6.226E+00	7.677E-01	9.326E+00
2.600E+00	2.307E+00	4.046E+01	2.307E-01	6.457E+00	7.573E-01	1.008E+01
2.700E+00	2.198E+00	4.266E+01	2.198E-01	6.676E+00	7.443E-01	1.083E+01
2.800E+00	2.088E+00	4.475E+01	2.088E-01	6.885E+00	7.291E-01	1.156E+01
2.900E+00	1.981E+00	4.673E+01	1.981E-01	7.083E+00	7.119E-01	1.227E+01
3.000E+00	1.876E+00	4.861E+01	1.876E-01	7.271E+00	6.931E-01	1.296E+01
3.100E+00	1.774E+00	5.038E+01	1.774E-01	7.448E+00	6.730E-01	1.363E+01
3.200E+00	1.676E+00	5.206E+01	1.676E-01	7.616E+00	6.519E-01	1.429E+01
3.300E+00	1.582E+00	5.364E+01	1.582E-01	7.774E+00	6.300E-01	1.492E+01
3.400E+00	1.491E+00	5.513E+01	1.491E-01	7.923E+00	6.076E-01	1.552E+01
3.500E+00	1.404E+00	5.653E+01	1.404E-01	8.064E+00	5.848E-01	1.611E+01
3.600E+00	1.321E+00	5.785E+01	1.321E-01	8.196E+00	5.619E-01	1.667E+01
3.700E+00	1.242E+00	5.910E+01	1.242E-01	8.320E+00	5.390E-01	1.721E+01
3.800E+00	1.167E+00	6.026E+01	1.167E-01	8.437E+00	5.163E-01	1.773E+01
3.900E+00	1.095E+00	6.136E+01	1.095E-01	8.546E+00	4.938E-01	1.822E+01
4.000E+00	1.028E+00	6.239E+01	1.028E-01	8.649E+00	4.717E-01	1.869E+01
4.100E+00	9.633E-01	6.335E+01	9.633E-02	8.745E+00	4.500E-01	1.914E+01
4.200E+00	9.026E-01	6.425E+01	9.026E-02	8.835E+00	4.288E-01	1.957E+01
4.300E+00	8.452E-01	6.510E+01	8.452E-02	8.920E+00	4.082E-01	1.998E+01
4.400E+00	7.911E-01	6.589E+01	7.911E-02	8.999E+00	3.882E-01	2.037E+01
4.500E+00	7.400E-01	6.663E+01	7.400E-02	9.073E+00	3.688E-01	2.074E+01
4.600E+00	6.920E-01	6.732E+01	6.920E-02	9.142E+00	3.501E-01	2.109E+01
4.700E+00	6.468E-01	6.797E+01	6.468E-02	9.207E+00	3.321E-01	2.142E+01
4.800E+00	6.042E-01	6.857E+01	6.042E-02	9.267E+00	3.147E-01	2.173E+01
4.900E+00	5.643E-01	6.914E+01	5.643E-02	9.324E+00	2.981E-01	2.203E+01
5.000E+00	5.269E-01	6.966E+01	5.269E-02	9.377E+00	2.822E-01	2.231E+01
5.100E+00	4.919E-01	7.015E+01	4.919E-02	9.426E+00	2.669E-01	2.258E+01
5.200E+00	4.593E-01	7.061E+01	4.593E-02	9.472E+00	2.524E-01	2.283E+01
5.300E+00	4.290E-01	7.104E+01	4.290E-02	9.515E+00	2.385E-01	2.307E+01
5.400E+00	4.006E-01	7.144E+01	4.006E-02	9.555E+00	2.253E-01	2.330E+01
5.500E+00	3.742E-01	7.182E+01	3.742E-02	9.592E+00	2.128E-01	2.351E+01

5.600E+00	3.496E-01	7.217E+01	3.496E-02	9.627E+00	2.009E-01	2.371E+01
5.700E+00	3.266E-01	7.249E+01	3.266E-02	9.660E+00	1.896E-01	2.390E+01
5.800E+00	3.051E-01	7.280E+01	3.051E-02	9.690E+00	1.789E-01	2.408E+01
5.900E+00	2.852E-01	7.308E+01	2.852E-02	9.719E+00	1.688E-01	2.425E+01
6.000E+00	2.007E+00	7.509E+01	2.007E-01	9.919E+00	1.219E+00	2.547E+01
7.000E+00	1.038E+00	7.613E+01	1.038E-01	1.002E+01	7.016E-01	2.617E+01
8.000E+00	2.207E-01	7.635E+01	8.514E-03	1.003E+01	1.559E-01	2.632E+01
8.330E+00	9.550E-01	7.731E+01	3.684E-02	1.007E+01	5.386E-01	2.686E+01
1.200E+01	4.779E-01	7.778E+01	1.843E-02	1.009E+01	2.245E-01	2.709E+01
1.940E+01	2.343E-01	7.802E+01	9.039E-03	1.010E+01	9.981E-02	2.719E+01
2.400E+01	2.009E+00	8.003E+01	4.402E-02	1.014E+01	3.175E-01	2.750E+01
7.200E+01	8.105E-01	8.084E+01	1.775E-02	1.016E+01	1.290E-01	2.763E+01
9.600E+01	4.238E+00	8.508E+01	3.249E-02	1.019E+01	3.658E-01	2.800E+01
	TOTAL	8.508E+01	TOTAL	1.019E+01	TOTAL	2.800E+01

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR INHALATN DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	1.249E-05	1.249E-05	2.601E-06	2.601E-06	6.184E-07	6.184E-07
1.667E-02	5.224E-07	1.301E-05	1.088E-07	2.710E-06	6.062E-06	6.680E-06
1.000E-01	7.579E-06	2.059E-05	1.579E-06	4.289E-06	7.204E-06	1.388E-05
2.000E-01	3.117E-05	5.176E-05	6.495E-06	1.078E-05	8.062E-06	2.195E-05
3.000E-01	6.010E-03	6.061E-03	1.252E-03	1.263E-03	1.906E-04	2.126E-04
4.000E-01	9.219E-03	1.528E-02	1.921E-03	3.183E-03	6.195E-04	8.321E-04
5.000E-01	1.304E-02	2.832E-02	2.717E-03	5.901E-03	1.202E-03	2.034E-03
6.000E-01	1.869E-02	4.701E-02	3.894E-03	9.795E-03	1.990E-03	4.023E-03
7.000E-01	2.613E-02	7.315E-02	5.444E-03	1.524E-02	3.065E-03	7.088E-03
8.000E-01	3.504E-02	1.082E-01	7.299E-03	2.254E-02	4.486E-03	1.157E-02
9.000E-01	4.510E-02	1.533E-01	9.397E-03	3.194E-02	6.284E-03	1.786E-02
1.000E+00	5.608E-02	2.094E-01	1.168E-02	4.362E-02	8.473E-03	2.633E-02
1.100E+00	6.772E-02	2.771E-01	1.411E-02	5.773E-02	1.105E-02	3.738E-02
1.200E+00	7.984E-02	3.569E-01	1.663E-02	7.436E-02	1.399E-02	5.137E-02
1.300E+00	9.228E-02	4.492E-01	1.922E-02	9.359E-02	1.728E-02	6.865E-02
1.400E+00	1.049E-01	5.541E-01	2.185E-02	1.154E-01	2.088E-02	8.953E-02
1.500E+00	1.175E-01	6.716E-01	2.449E-02	1.399E-01	2.476E-02	1.143E-01
1.600E+00	1.301E-01	8.018E-01	2.711E-02	1.670E-01	2.888E-02	1.432E-01
1.700E+00	1.426E-01	9.444E-01	2.971E-02	1.967E-01	3.321E-02	1.764E-01
1.800E+00	1.549E-01	1.099E+00	3.226E-02	2.290E-01	3.771E-02	2.141E-01
1.900E+00	1.669E-01	1.266E+00	3.476E-02	2.638E-01	4.234E-02	2.564E-01
2.000E+00	4.836E-04	1.267E+00	4.836E-05	2.638E-01	1.249E-04	2.566E-01
2.000E+00	1.713E-01	1.438E+00	1.713E-02	2.810E-01	4.479E-02	3.014E-01
2.100E+00	1.689E-01	1.607E+00	1.689E-02	2.978E-01	4.537E-02	3.467E-01
2.200E+00	1.646E-01	1.771E+00	1.646E-02	3.143E-01	4.564E-02	3.924E-01
2.300E+00	1.594E-01	1.931E+00	1.594E-02	3.303E-01	4.571E-02	4.381E-01
2.400E+00	1.536E-01	2.084E+00	1.536E-02	3.456E-01	4.556E-02	4.836E-01
2.500E+00	1.473E-01	2.232E+00	1.473E-02	3.603E-01	4.522E-02	5.289E-01
2.600E+00	1.409E-01	2.373E+00	1.409E-02	3.744E-01	4.468E-02	5.735E-01
2.700E+00	1.343E-01	2.507E+00	1.343E-02	3.879E-01	4.398E-02	6.175E-01
2.800E+00	1.278E-01	2.635E+00	1.278E-02	4.006E-01	4.314E-02	6.607E-01
2.900E+00	1.214E-01	2.756E+00	1.214E-02	4.128E-01	4.216E-02	7.028E-01
3.000E+00	1.151E-01	2.871E+00	1.151E-02	4.243E-01	4.109E-02	7.439E-01
3.100E+00	1.089E-01	2.980E+00	1.089E-02	4.352E-01	3.992E-02	7.838E-01
3.200E+00	1.030E-01	3.083E+00	1.030E-02	4.455E-01	3.869E-02	8.225E-01
3.300E+00	9.725E-02	3.180E+00	9.725E-03	4.552E-01	3.740E-02	8.599E-01
3.400E+00	9.174E-02	3.272E+00	9.174E-03	4.644E-01	3.608E-02	8.960E-01
3.500E+00	8.646E-02	3.359E+00	8.646E-03	4.730E-01	3.473E-02	9.307E-01
3.600E+00	8.141E-02	3.440E+00	8.141E-03	4.812E-01	3.337E-02	9.641E-01
3.700E+00	7.659E-02	3.517E+00	7.659E-03	4.888E-01	3.200E-02	9.961E-01
3.800E+00	7.200E-02	3.589E+00	7.200E-03	4.960E-01	3.064E-02	1.027E+00
3.900E+00	6.763E-02	3.656E+00	6.763E-03	5.028E-01	2.930E-02	1.056E+00
4.000E+00	6.348E-02	3.720E+00	6.348E-03	5.091E-01	2.797E-02	1.084E+00
4.100E+00	5.955E-02	3.779E+00	5.955E-03	5.151E-01	2.667E-02	1.111E+00
4.200E+00	5.582E-02	3.835E+00	5.582E-03	5.207E-01	2.539E-02	1.136E+00
4.300E+00	5.230E-02	3.887E+00	5.230E-03	5.259E-01	2.415E-02	1.160E+00
4.400E+00	4.897E-02	3.936E+00	4.897E-03	5.308E-01	2.295E-02	1.183E+00
4.500E+00	4.583E-02	3.982E+00	4.583E-03	5.354E-01	2.178E-02	1.205E+00
4.600E+00	4.287E-02	4.025E+00	4.287E-03	5.397E-01	2.065E-02	1.226E+00
4.700E+00	4.009E-02	4.065E+00	4.009E-03	5.437E-01	1.956E-02	1.245E+00
4.800E+00	3.746E-02	4.103E+00	3.746E-03	5.474E-01	1.852E-02	1.264E+00
4.900E+00	3.500E-02	4.138E+00	3.500E-03	5.509E-01	1.752E-02	1.281E+00
5.000E+00	3.269E-02	4.170E+00	3.269E-03	5.542E-01	1.655E-02	1.298E+00
5.100E+00	3.052E-02	4.201E+00	3.052E-03	5.572E-01	1.563E-02	1.313E+00
5.200E+00	2.851E-02	4.229E+00	2.851E-03	5.601E-01	1.476E-02	1.328E+00
5.300E+00	2.663E-02	4.256E+00	2.663E-03	5.628E-01	1.392E-02	1.342E+00
5.400E+00	2.487E-02	4.281E+00	2.487E-03	5.652E-01	1.313E-02	1.355E+00
5.500E+00	2.324E-02	4.304E+00	2.324E-03	5.676E-01	1.237E-02	1.368E+00

5.600E+00	2.171E-02	4.326E+00	2.171E-03	5.697E-01	1.166E-02	1.379E+00
5.700E+00	2.029E-02	4.346E+00	2.029E-03	5.718E-01	1.098E-02	1.390E+00
5.800E+00	1.896E-02	4.365E+00	1.896E-03	5.737E-01	1.034E-02	1.401E+00
5.900E+00	1.771E-02	4.383E+00	1.771E-03	5.754E-01	9.732E-03	1.410E+00
6.000E+00	1.246E-01	4.507E+00	1.246E-02	5.879E-01	6.919E-02	1.479E+00
7.000E+00	6.405E-02	4.571E+00	6.405E-03	5.943E-01	3.862E-02	1.518E+00
8.000E+00	1.348E-02	4.585E+00	5.200E-04	5.948E-01	8.325E-03	1.526E+00
8.330E+00	5.468E-02	4.640E+00	2.109E-03	5.969E-01	2.481E-02	1.551E+00
1.200E+01	1.762E-02	4.657E+00	6.795E-04	5.976E-01	7.542E-03	1.559E+00
1.940E+01	7.261E-03	4.664E+00	2.801E-04	5.979E-01	3.107E-03	1.562E+00
2.400E+01	6.158E-02	4.726E+00	1.349E-03	5.992E-01	9.723E-03	1.572E+00
7.200E+01	2.474E-02	4.751E+00	5.419E-04	5.998E-01	3.936E-03	1.576E+00
9.600E+01	1.293E-01	4.880E+00	9.911E-04	6.008E-01	1.114E-02	1.587E+00
	TOTAL	4.880E+00	TOTAL	6.008E-01	TOTAL	1.587E+00

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SUMMARY OF OFF-SITE DOSES

GGNS - LOCA Calculation using FGR 11&12 DCFs and NUREG-1465 Source Terms

CALCULATION FOR TEDE DOSE (REMS)

MULTI NODE CONTAINMENT WITH ESF

START TIME (HRS)	EXCLUSION RADIUS		LOW POPULATION ZONE		CONTROL ROOM	
	EACH STEP	ACCUM.	EACH STEP	ACCUM.	EACH STEP	ACCUM.
0.000E+00	1.461E-05	1.461E-05	3.043E-06	3.043E-06	6.244E-07	6.244E-07
1.667E-02	1.579E-06	1.619E-05	3.290E-07	3.372E-06	6.120E-06	6.745E-06
1.000E-01	2.287E-05	3.905E-05	4.764E-06	8.136E-06	7.296E-06	1.404E-05
2.000E-01	9.384E-05	1.329E-04	1.955E-05	2.769E-05	8.284E-06	2.233E-05
3.000E-01	1.834E-02	1.847E-02	3.821E-03	3.849E-03	2.127E-04	2.350E-04
4.000E-01	2.820E-02	4.667E-02	5.875E-03	9.724E-03	6.946E-04	9.296E-04
5.000E-01	4.100E-02	8.767E-02	8.542E-03	1.827E-02	1.353E-03	2.282E-03
6.000E-01	6.403E-02	1.517E-01	1.334E-02	3.161E-02	2.258E-03	4.540E-03
7.000E-01	9.721E-02	2.489E-01	2.025E-02	5.186E-02	3.516E-03	8.055E-03
8.000E-01	1.386E-01	3.875E-01	2.887E-02	8.072E-02	5.207E-03	1.326E-02
9.000E-01	1.864E-01	5.739E-01	3.884E-02	1.196E-01	7.380E-03	2.064E-02
1.000E+00	2.391E-01	8.130E-01	4.981E-02	1.694E-01	1.005E-02	3.070E-02
1.100E+00	2.944E-01	1.107E+00	6.133E-02	2.307E-01	1.323E-02	4.392E-02
1.200E+00	3.512E-01	1.459E+00	7.318E-02	3.039E-01	1.688E-02	6.080E-02
1.300E+00	4.091E-01	1.868E+00	8.522E-02	3.891E-01	2.098E-02	8.178E-02
1.400E+00	4.673E-01	2.335E+00	9.735E-02	4.865E-01	2.550E-02	1.073E-01
1.500E+00	5.253E-01	2.860E+00	1.094E-01	5.959E-01	3.038E-02	1.377E-01
1.600E+00	5.818E-01	3.442E+00	1.212E-01	7.171E-01	3.560E-02	1.733E-01
1.700E+00	6.366E-01	4.079E+00	1.326E-01	8.497E-01	4.109E-02	2.143E-01
1.800E+00	6.896E-01	4.768E+00	1.437E-01	9.934E-01	4.681E-02	2.612E-01
1.900E+00	7.408E-01	5.509E+00	1.543E-01	1.148E+00	5.272E-02	3.139E-01
2.000E+00	7.914E-01	6.270E+00	1.648E-01	1.307E+00	5.869E-02	3.691E-01
2.100E+00	8.403E-01	7.061E+00	1.753E-01	1.471E+00	6.486E-02	4.269E-01
2.200E+00	8.877E-01	7.882E+00	1.858E-01	1.640E+00	7.132E-02	4.872E-01
2.300E+00	9.337E-01	8.733E+00	1.963E-01	1.814E+00	7.807E-02	5.507E-01
2.400E+00	9.783E-01	9.604E+00	2.068E-01	2.000E+00	8.509E-02	6.168E-01
2.500E+00	1.021E-01	1.050E+01	2.173E-01	2.190E+00	9.237E-02	6.855E-01
2.600E+00	1.063E-01	1.142E+01	2.278E-01	2.384E+00	1.000E-01	7.567E-01
2.700E+00	1.104E-01	1.235E+01	2.383E-01	2.582E+00	1.080E-01	8.303E-01
2.800E+00	1.145E-01	1.329E+01	2.488E-01	2.784E+00	1.166E-01	9.054E-01
2.900E+00	1.185E-01	1.426E+01	2.593E-01	2.990E+00	1.258E-01	9.820E-01
3.000E+00	1.225E-01	1.524E+01	2.698E-01	3.199E+00	1.356E-01	1.060E+00
3.100E+00	1.264E-01	1.623E+01	2.803E-01	3.412E+00	1.460E-01	1.140E+00
3.200E+00	1.303E-01	1.723E+01	2.908E-01	3.628E+00	1.569E-01	1.224E+00
3.300E+00	1.342E-01	1.824E+01	3.013E-01	3.847E+00	1.683E-01	1.313E+00
3.400E+00	1.381E-01	1.926E+01	3.118E-01	4.069E+00	1.802E-01	1.407E+00
3.500E+00	1.420E-01	2.029E+01	3.223E-01	4.294E+00	1.926E-01	1.506E+00
3.600E+00	1.458E-01	2.133E+01	3.328E-01	4.522E+00	2.055E-01	1.610E+00
3.700E+00	1.496E-01	2.238E+01	3.433E-01	4.753E+00	2.189E-01	1.719E+00
3.800E+00	1.534E-01	2.343E+01	3.538E-01	4.987E+00	2.328E-01	1.833E+00
3.900E+00	1.572E-01	2.449E+01	3.643E-01	5.224E+00	2.472E-01	1.952E+00
4.000E+00	1.610E-01	2.555E+01	3.748E-01	5.464E+00	2.621E-01	2.076E+00
4.100E+00	1.648E-01	2.662E+01	3.853E-01	5.707E+00	2.775E-01	2.205E+00
4.200E+00	1.686E-01	2.769E+01	3.958E-01	5.954E+00	2.934E-01	2.339E+00
4.300E+00	1.724E-01	2.876E+01	4.063E-01	6.204E+00	3.098E-01	2.478E+00
4.400E+00	1.762E-01	2.984E+01	4.168E-01	6.457E+00	3.267E-01	2.622E+00
4.500E+00	1.800E-01	3.092E+01	4.273E-01	6.714E+00	3.441E-01	2.771E+00
4.600E+00	1.838E-01	3.201E+01	4.378E-01	6.974E+00	3.620E-01	2.925E+00
4.700E+00	1.876E-01	3.310E+01	4.483E-01	7.237E+00	3.804E-01	3.084E+00
4.800E+00	1.914E-01	3.420E+01	4.588E-01	7.503E+00	3.993E-01	3.248E+00
4.900E+00	1.952E-01	3.530E+01	4.693E-01	7.772E+00	4.187E-01	3.417E+00
5.000E+00	1.990E-01	3.640E+01	4.798E-01	8.044E+00	4.386E-01	3.591E+00
5.100E+00	2.028E-01	3.750E+01	4.903E-01	8.319E+00	4.590E-01	3.770E+00
5.200E+00	2.066E-01	3.860E+01	5.008E-01	8.597E+00	4.799E-01	3.954E+00
5.300E+00	2.104E-01	3.970E+01	5.113E-01	8.878E+00	5.013E-01	4.143E+00
5.400E+00	2.142E-01	4.080E+01	5.218E-01	9.161E+00	5.232E-01	4.337E+00
5.500E+00	2.180E-01	4.190E+01	5.323E-01	9.447E+00	5.456E-01	4.536E+00

5.600E+00	3.151E-01	2.455E+01	3.151E-02	3.052E+00	2.370E-02	1.931E+00
5.700E+00	3.079E-01	2.486E+01	3.079E-02	3.083E+00	2.286E-02	1.954E+00
5.800E+00	3.009E-01	2.516E+01	3.009E-02	3.113E+00	2.207E-02	1.976E+00
5.900E+00	2.942E-01	2.546E+01	2.942E-02	3.142E+00	2.130E-02	1.997E+00
6.000E+00	2.614E+00	2.807E+01	2.614E-01	3.404E+00	1.757E-01	2.173E+00
7.000E+00	2.130E+00	3.020E+01	2.130E-01	3.617E+00	1.309E-01	2.304E+00
8.000E+00	6.187E-01	3.082E+01	4.591E-02	3.663E+00	3.497E-02	2.339E+00
8.330E+00	5.017E+00	3.584E+01	3.743E-01	4.037E+00	1.860E-01	2.525E+00
1.200E+01	5.233E+00	4.107E+01	3.919E-01	4.429E+00	1.333E-01	2.658E+00
1.940E+01	2.031E+00	4.310E+01	1.521E-01	4.581E+00	5.404E-02	2.712E+00
2.400E+01	1.147E+01	5.457E+01	3.817E-01	4.963E+00	1.106E-01	2.823E+00
7.200E+01	3.903E+00	5.848E+01	1.298E-01	5.092E+00	3.917E-02	2.862E+00
9.600E+01	1.465E+01	7.312E+01	1.703E-01	5.263E+00	8.261E-02	2.945E+00
	TOTAL	7.312E+01	TOTAL	5.263E+00	TOTAL	2.945E+00

1 NO MORE CASES

END OF EXECUTION

## CONTAINMENT LEAKAGE RAPTOR RUN (CASE 2)

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR  RR  AA  AA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AAA  AAA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  PP  TT  OO  OO  RR  RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT  OO  2.10B  OO  RRRRRRRR
RRRRRRRR      AAAAAAAAAA      PPPPPP      TT  OO  OO  RRRRRRRR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OOOOOOO      RR  RR
RR  RR  AA  AA  PP  TT  OOO      RR  RR

IIIIIIIIII  NN      NN  PPPPPP  UU      UU  TTTTTTTTTT
IIIIIIIIII  NNN      NN  PPPPPPPP  UU      UU  TTTTTTTTTT
      II  NNNN      NN  PP  PP  UU      UU  TT
      II  NN  NN      NN  PP  PP  UU      UU  TT
      II  NN  NN      NN  PP  PP  UU      UU  TT
      II  NN  NN      NN  PPPPPPPP  UU      UU  TT
      II  NN  NN      NN  PPPPPP  UU      UU  TT
      II  NN  NN  NN  PP  UU      UU  TT
      II  NN  NN  NN  PP  UUU      UUU  TT
IIIIIIIIII  NN      NNN  PP      UUUUUUUU  TT
IIIIIIIIII  NN      NN  PP      UU      TT
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Execution Time: 08:59:38 on 10/15/00

### MODELED NUCLIDE PARAMTERS

Isotope	Group	Half-Life	Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Co-58	Noble Mtls	7.0800E+001 Dys	1.7612E-001	3.2264E+003	1.0878E+004
Co-60	Noble Mtls	5.2696E+000 Yrs	4.6620E-001	5.9940E+004	2.1867E+005
Br-82	Halogens	1.4710E+000 Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000 Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001 Min	3.4817E-001	5.2910E+000	8.3990E+001
Kr-85	Noble Gas	1.0730E+001 Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000 Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000 Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000 Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001 Dys	1.7797E-002	4.9210E+003	6.6230E+003
Sr-89	Stront/Bar	5.0520E+001 Dys	2.8601E-004	2.9452E+001	4.1440E+004
Sr-90	Stront/Bar	2.9100E+001 Yrs	2.7861E-005	9.9530E+002	1.2987E+006
Sr-91	Stront/Bar	9.5000E+000 Hrs	1.8219E-001	3.6741E+001	1.6824E+003
Sr-92	Stront/Bar	2.7100E+000 Hrs	2.5123E-001	1.4504E+001	8.0660E+002
Y-90	Lanthanum	2.6700E+000 Dys	7.0300E-004	1.9129E+000	8.4360E+003
Y-91	Lanthanum	5.8500E+001 Dys	9.6200E-004	3.1450E+001	4.8840E+004
Y-92	Lanthanum	3.5400E+000 Hrs	4.8100E-002	3.8850E+000	7.8070E+002
Y-93	Lanthanum	1.0200E+001 Hrs	1.7760E-002	3.4262E+000	2.1534E+003
Zr-95	Lanthanum	6.4020E+001 Dys	1.3320E-001	5.3280E+003	2.3643E+004
Zr-97	Lanthanum	1.6800E+001 Hrs	1.6398E-001	8.5655E+001	4.3327E+003
Nb-95	Lanthanum	3.4970E+001 Dys	1.3838E-001	1.3246E+003	5.8090E+003
Mo-99	Noble Mtls	2.7476E+000 Dys	2.6936E-002	5.6240E+001	3.9590E+003
Tc-99m	Noble Mtls	6.0100E+000 Hrs	2.1793E-002	1.8537E+002	3.2560E+001
Ru-103	Noble Mtls	3.9270E+001 Dys	8.3287E-002	9.5090E+002	8.9577E+003
Ru-105	Noble Mtls	4.4400E+000 Hrs	1.4097E-001	1.5355E+001	4.5510E+002
Ru-106	Noble Mtls	1.0200E+000 Yrs	3.8480E-002	6.3640E+003	4.7730E+005
Rh-105	Noble Mtls	3.5400E+001 Hrs	1.3764E-002	1.0656E+001	9.5460E+002
Sb-125	Tellurium	2.7580E+000 Yrs	7.4740E-002	1.1988E+003	1.2210E+004
Sb-127	Tellurium	3.8400E+000 Dys	1.2321E-001	2.2755E+002	6.0310E+003
Sb-129	Tellurium	4.4000E+000 Hrs	2.6418E-001	3.5964E+001	6.4380E+002
Te-127	Tellurium	9.4000E+000 Hrs	8.9540E-004	6.8080E+000	3.1820E+002
Te-127m	Tellurium	1.0900E+002 Dys	5.4390E-004	3.5742E+002	2.1497E+004
Te-129	Tellurium	1.1600E+000 Hrs	1.0175E-002	1.8834E+000	7.7330E+001
Te-129m	Tellurium	3.3600E+001 Dys	4.5826E+000	1.4244E+003	5.8724E+004
Te-131m	Tellurium	1.3500E+000 Dys	1.5619E+000	4.8335E+005	1.9773E+004
Te-132	Tellurium	3.2600E+000 Dys	1.4251E+001	4.5317E+005	2.2506E+004
Te-133m	Tellurium	5.5400E+001 Min	5.2469E-001	1.8973E+004	7.1746E+005
Te-134	Tellurium	4.2000E+001 Min	5.4168E-001	2.9097E+003	2.2459E+002
I-131	Halogens	8.0400E+000 Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000 Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001 Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001 Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000 Hrs	3.0688E-001	3.1302E+004	1.2284E+003
Xe-133	Noble Gas	5.2430E+000 Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000 Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Cs-134	Cesiums	2.0650E+000 Yrs	2.8009E-001	4.1070E+004	4.6250E+004
Cs-136	Cesiums	1.3160E+001 Dys	3.9220E-001	6.4010E+003	7.3260E+003
Cs-137	Cesiums	3.0170E+001 Yrs	1.0082E-001	2.9341E+004	3.1931E+004
Cs-138	Cesiums	3.2200E+001 Min	4.4770E-001	1.3209E+001	1.0138E+002
Ba-139	Stront/Bar	1.3960E+000 Hrs	8.0290E-003	8.8800E+000	1.7168E+002
Ba-140	Stront/Bar	1.2750E+001 Dys	3.1746E-002	9.4720E+002	3.7370E+003
La-140	Lanthanum	1.6780E+000 Dys	4.3290E-001	2.5419E+002	4.8470E+003
La-141	Lanthanum	3.9000E+000 Hrs	8.8430E-003	3.4780E+001	5.8090E+002
La-142	Lanthanum	1.5400E+000 Hrs	5.3280E-001	3.2338E+001	2.5308E+002
Ce-141	Cerium	3.2500E+001 Dys	1.2691E-002	9.4350E+001	8.9540E+003
Ce-143	Cerium	1.3800E+000 Dys	4.7730E-002	2.3051E+001	3.3892E+003
Ce-144	Cerium	2.8460E+002 Dys	1.0260E-002	1.0804E+003	3.7370E+005
Pr-143	Lanthanum	1.3570E+001 Dys	7.7700E-005	6.2160E-006	8.1030E+003
Nd-147	Lanthanum	1.0980E+001 Dys	2.2903E-002	6.7340E+001	6.8450E+003
Np-238	Cerium	2.1170E+000 Dys	1.0064E-001	9.0650E+001	3.7000E+004
Np-239	Cerium	2.3550E+000 Dys	2.8453E-002	2.8194E+001	2.5086E+003

Pu-238	Cerium	8.7700E+001	Yrs	1.8056E-005	1.4282E+003	2.8823E+008
Pu-239	Cerium	2.4100E+004	Yrs	1.5688E-005	1.3875E+003	3.0821E+008
Pu-240	Cerium	6.5600E+003	Yrs	1.7575E-005	1.3912E+003	3.0821E+008
Pu-241	Cerium	1.4400E+001	Yrs	2.6825E-007	3.3855E+001	4.9580E+006
Am-241	Lanthanum	4.3270E+002	Yrs	3.0266E-003	5.9200E+003	4.4400E+008
Cm-242	Lanthanum	1.6280E+002	Dys	2.1053E-005	3.4817E+003	1.7279E+007
Cm-244	Lanthanum	1.8100E+001	Yrs	1.8167E-005	3.7370E+003	2.4790E+008

#### MODEL PARAMETERS

Core Power Level = 3910.00 MW  
Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

#### NODE PARAMETERS

Name	Volume (cu.ft.)	Inventory Tracked?
Drywell	2.7000E+005	Yes
Sprayed	8.4000E+005	Yes
Unsprayed	5.6000E+005	Yes
SecCont	3.0000E+005	Yes
MSIVVol	5.7820E+002	Yes
Turb_Bldg	1.0000E+000	Yes
ContolRoom	2.5300E+005	Yes
OutofCR	1.0000E+000	No

#### RELEASE POINTS

Name  
Encl\_Bldg\_Vent  
SGTS\_Vent

#### RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

#### INITIAL INVENTORIES

Co-58 In Core	at 1.5290E+002 Ci/MW			
Co-60 In Core	at 1.8300E+002 Ci/MW			
Br-82 In Core	at 1.9500E+002 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Br-83 In Core	at 3.5220E+003 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Br-84 In Core	at 6.1990E+003 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Kr-85 In Core	at 3.8800E+002 Ci/MW			
Kr-85m In Core	at 9.1100E+003 Ci/MW			
Kr-87 In Core	at 1.6570E+004 Ci/MW			
Kr-88 In Core	at 2.2360E+004 Ci/MW			
Rb-86 In Core	at 7.3760E+001 Ci/MW			
Sr-89 In Core	at 2.7950E+004 Ci/MW			
Sr-90 In Core	at 3.1510E+003 Ci/MW			
Sr-91 In Core	at 3.6040E+004 Ci/MW			
Sr-92 In Core	at 3.7650E+004 Ci/MW			
Y-90 In Core	at 3.2510E+003 Ci/MW			
Y-91 In Core	at 3.5600E+004 Ci/MW			
Y-92 In Core	at 3.7800E+004 Ci/MW			
Y-93 In Core	at 4.2980E+004 Ci/MW			
Zr-95 In Core	at 4.6600E+004 Ci/MW			
Zr-97 In Core	at 4.5870E+004 Ci/MW			
Nb-95 In Core	at 4.6750E+004 Ci/MW			
Mo-99 In Core	at 5.1380E+004 Ci/MW			
Tc-99m In Core	at 4.4990E+004 Ci/MW			
Ru-103 In Core	at 4.5190E+004 Ci/MW			
Ru-105 In Core	at 3.3040E+004 Ci/MW			
Ru-106 In Core	at 1.9680E+004 Ci/MW			
Rh-105 In Core	at 3.0870E+004 Ci/MW			
Sb-125 In Core	at 5.5550E+002 Ci/MW			
Sb-127 In Core	at 2.2340E+004 Ci/MW			
Sb-129 In Core	at 9.3090E+003 Ci/MW			
Te-127 In Core	at 3.2200E+003 Ci/MW			
Te-127m In Core	at 4.2970E+002 Ci/MW			
Te-129 In Core	at 9.1610E+003 Ci/MW			
Te-129m In Core	at 1.9900E+003 Ci/MW			
Te-131m In Core	at 4.0790E+003 Ci/MW			
Te-132 In Core	at 3.9080E+004 Ci/MW			
Te-133m In Core	at 2.0680E+004 Ci/MW			
Te-134 In Core	at 4.6880E+004 Ci/MW			
I-131 In Core	at 2.7570E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-132 In Core	at 3.9770E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-133 In Core	at 5.5140E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-134 In Core	at 6.0740E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
I-135 In Core	at 5.1530E+004 Ci/MW	0.0485 elem.	0.0015 org.	0.9500 part.
Xe-133 In Core	at 5.4250E+004 Ci/MW			
Xe-135 In Core	at 2.1540E+004 Ci/MW			
Cs-134 In Core	at 8.1940E+003 Ci/MW			
Cs-136 In Core	at 2.4040E+003 Ci/MW			
Cs-137 In Core	at 4.1970E+003 Ci/MW			
Cs-138 In Core	at 5.1020E+004 Ci/MW			
Ba-139 In Core	at 4.9940E+004 Ci/MW			
Ba-140 In Core	at 4.9270E+004 Ci/MW			
La-140 In Core	at 5.0690E+004 Ci/MW			
La-141 In Core	at 4.6420E+004 Ci/MW			
La-142 In Core	at 4.4660E+004 Ci/MW			
Ce-141 In Core	at 4.5680E+004 Ci/MW			

Ce-143 In Core at 4.3550E+004 Ci/MW  
Ce-144 In Core at 3.5750E+004 Ci/MW  
Pr-143 In Core at 4.2630E+004 Ci/MW  
Nd-147 In Core at 1.9050E+004 Ci/MW  
Np-238 In Core at 1.5800E+004 Ci/MW  
Np-239 In Core at 6.5700E+005 Ci/MW  
Pu-238 In Core at 1.8950E+002 Ci/MW  
Pu-239 In Core at 1.3660E+001 Ci/MW  
Pu-240 In Core at 2.0690E+001 Ci/MW  
Pu-241 In Core at 5.5500E+003 Ci/MW  
Am-241 In Core at 7.1300E+000 Ci/MW  
Cm-242 In Core at 2.1690E+003 Ci/MW  
Cm-244 In Core at 4.5780E+002 Ci/MW

#### RELEASE PARAMETERS

0.000E+000 Sec to 5.000E-001 Hrs	: Noble Gas	Into Drywell	at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs	: Halogens	Into Drywell	at 5.0000E+000 percent
0.000E+000 Sec to 5.000E-001 Hrs	: Cesiums	Into Drywell	at 5.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Noble Gas	Into Drywell	at 9.5000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Halogens	Into Drywell	at 2.5000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Cesiums	Into Drywell	at 2.0000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Tellurium	Into Drywell	at 5.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Stront/Bar	Into Drywell	at 2.0000E+000 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Noble Mtls	Into Drywell	at 2.5000E-001 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Lanthanum	Into Drywell	at 2.0000E-002 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Cerium	Into Drywell	at 5.0000E-002 percent

#### FLOW PARAMETERS

Flow#1 from Drywell to MSIVVol  
0.000E+000 Sec to 1.800E+001 Min at 2.3020E+000 percent per day

Flow#2 from Drywell to Unsprayed  
0.000E+000 Sec to 2.000E+000 Hrs at 1.6000E+003 percent per day  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#3 from Unsprayed to Drywell  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#4 from Sprayed to Unsprayed  
0.000E+000 Sec to 3.000E+001 Min at 3.2000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.2000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 3.2000E+003 percent per day

Flow#5 from Unsprayed to Sprayed  
0.000E+000 Sec to 3.000E+001 Min at 4.8000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.8000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 4.8000E+003 percent per day

Flow#6 from Sprayed to SecCont  
1.000E+000 Min to 4.000E+000 Dys at 3.8500E-001 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#7 from Unsprayed to SecCont  
1.000E+000 Min to 4.000E+000 Dys at 3.8500E-001 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#8 from Sprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#9 from SecCont to SGTS\_Vent  
1.000E+000 Min to 3.000E+001 Dys at 4.0010E+003 cfm

Flow#10 from MSIVVol to SecCont  
1.800E+001 Min to 3.000E+001 Min at 1.1000E+020 cfm

Flow#11 from CR\_Intake to ContolRoom  
0.000E+000 Sec to 2.000E+001 Min at 2.0000E+003 cfm  
2.000E+001 Min to 3.000E+000 Dys at 2.0000E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0000E+003 cfm

Flow#12 from ContolRoom to OutofCR  
0.000E+000 Sec to 2.000E+001 Min at 2.0100E+003 cfm  
2.000E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0100E+003 cfm

Flow#13 from Drywell to SecCont  
1.800E+001 Min to 4.000E+000 Dys at 2.3020E+000 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.4750E+000 percent per day

Flow#14 from Unsprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#15 from ContolRoom to ContolRoom  
1.800E+001 Min to 3.000E+000 Dys at 4.0000E+003 cfm

Flow#16 from CR\_Intake to ContolRoom  
0.000E+000 Sec to 3.000E+001 Dys at 1.0000E+001 cfm

#### FILTER PARAMETERS

SGTS\_Filter on Flow#9 is Not Tracked  
1.000E+000 Min to 3.000E+001 Dys for Elemental Species of Halogens at 0.989750

1.000E+000 Min to 3.000E+001 Dys for Organic Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Particulate Species of All Groups at 0.989750

CRFAS\_HEPA on Flow#15 is Not Tracked  
1.800E+001 Min to 3.000E+000 Dys for Particulate Species of All Groups at 0.990000

CRFAS\_HEPA on Flow#11 is Not Tracked  
3.000E+000 Dys to 3.000E+001 Dys for Particulate Species of All Groups at 0.990000

#### REMOVAL PARAMETERS

Drywell\_Dep from Drywell  
0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 0.86600 1/hr

Containment\_Spray from Sprayed  
0.000E+000 Sec to 3.000E+001 Min for Halogens Elemental at 0.68230 1/hr  
3.000E+001 Min to 2.800E+000 Hrs for Halogens Elemental at 20.68000 1/hr  
3.000E+001 Min to 3.000E+000 Hrs for All Groups Particulate at 9.51000 1/hr  
3.000E+000 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.95100 1/hr

Unsprayed\_Removal from Unsprayed  
0.000E+000 Sec to 2.800E+000 Hrs for Halogens Elemental at 1.09200 1/hr

#### DIFFUSION PARAMETERS

Diffusion from Encl\_Bldg\_Vent to EAB  
0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 7.5000E-003 s/cu.m.

Diffusion from SGTS\_Vent to EAB  
0.000E+000 Sec to 3.000E+001 Dys at 6.0000E-004 s/cu.m.

Diffusion from SGTS\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 4.5000E-005 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 2.0000E-005 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 7.0000E-006 s/cu.m.

Diffusion from SGTS\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 5.0000E-004 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 2.5000E-004 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 1.6000E-004 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 1.3000E-004 s/cu.m.

#### DOSE LOCATIONS

EAB (with 2-hr sliding window)  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

LPZ  
0.000E+000 Sec to 8.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
8.000E+000 Hrs to 2.400E+001 Hrs at Breathing Rate=1.8000E-004 cu.m./s  
2.400E+001 Hrs to 3.000E+001 Dys at Breathing Rate=2.3000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

ContolRoom  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000  
1.000E+000 Dys to 4.000E+000 Dys at Occupancy Factor=0.600000  
4.000E+000 Dys to 3.000E+001 Dys at Occupancy Factor=0.400000

RRRRRR	AAAA	PPPPP	TTTTTTTT	000	RRRRR
RRRRRRR	AAAAA	PPPPPP	TTTTTTTTT	000000	RRRRRRR
RR RR	AA AA	PP PP	TT	00	RR RR
RR RR	AAA AAA	PP PP	TT	00	RR RR
RR RR	AA AA	PP PP	TT	00	RR RR
RRRRRRR	AAAAAAAAA	PPPPPPP	TT	00 2.10B	RRRRRRR
RRRRRR	AAAAAAA	PPPPP	TT	00	RRRRR
RR RR	AA AA	PP	TT	00	RR RR
RR RR	AA AA	PP	TT	00	RR RR
RR RR	AA AA	PP	TT	000000	RR RR
RR RR	AA AA	PP	TT	000	RR RR

UU	UU	TTTTTTTTTT	PPPPPP	UU	UU	TTTTTTTTTT
UU	UU	TTTTTTTTTT	PPPPPPPP	UU	UU	TTTTTTTTTT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PP	PP	UU	TT
UU	UU	TT	PPPPPPPP	UU	UU	TT
UU	UU	TT	PPPPPP	UU	UU	TT
UU	UU	TT	PP	UU	UU	TT
UU	UU	TT	PP	UUU	UUU	TT
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UU	TT
UU	UU	TT	PP	UU	UU	TT

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Time = -121.000000 Seconds
CPU ClockTime = 0.060000 Seconds
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	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00000	0.00000	0.00000	0.00000	0.00000 ending at	0.0 Sec
LPZ	0.00000	0.00000	0.00000	0.00000		
ContolRoom	0.00000	0.00000	0.00000	0.00000		

[illegible]

I-135P	1.914082E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.121175E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.422140E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203854E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.399644E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.994882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-139	1.952654E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926457E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.981979E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.815022E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.746206E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786088E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.702805E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397825E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.448550E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.177800E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.568870E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480790E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789988E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

```
Time = 0.000000 Seconds
CPU ClockTime = 0.280000 Seconds
```

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00000	0.00000	0.00000	0.00000	0.00000 ending at	0.0 Sec
LPZ	0.00000	0.00000	0.00000	0.00000		
ContolRoom	0.00000	0.00000	0.00000	0.00000		

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.978308E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155296E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.695443E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.142920E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.238497E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.614424E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.045698E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.295609E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.124993E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.479358E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.203594E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.543534E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.361102E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.671334E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.883866E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092824E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.405712E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.459514E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.207679E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.468285E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.676684E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.791032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.0			

I-134P	2.197019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	9.737302E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	3.011536E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135P	1.907306E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.120782E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.400606E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.398947E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.910134E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-139	1.920337E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926310E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.804212E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.719988E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786035E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701608E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397820E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666714E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.447892E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.174968E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.567811E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480739E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 60.00000 Seconds  
CPU ClockTime = 0.390000 Seconds

		WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window						
EAB		0.00000	0.00027	0.00001	0.00001	0.00001 ending at	60.0 Sec					
LPZ		0.00000	0.00006	0.00000	0.00000							
ContolRoom		0.00000	0.00001	0.00000	0.00000							
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom				
Co-58	5.978267E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Co-60	7.155295E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Br-82E	3.694234E+004	6.079051E+001	3.516008E-003	3.279322E-001	0.000000E+000	4.798743E-004	0.000000E+000	1.933608E-009				
Br-82O	1.142547E+003	1.893694E+000	1.099232E-004	1.025191E-002	0.000000E+000	1.491223E-005	0.000000E+000	6.027470E-011				
Br-82P	7.236128E+005	1.191915E+003	6.940516E-002	6.466203E+000	0.000000E+000	9.405718E-003	0.000000E+000	3.805948E-008				
Br-83E	6.582662E+005	1.083251E+003	6.265788E-002	5.843777E+000	0.000000E+000	8.551397E-003	0.000000E+000	3.446091E-008				
Br-83O	2.035875E+004	3.374452E+001	1.958914E-003	1.826899E-001	0.000000E+000	2.657372E-004	0.000000E+000	1.074221E-009				
Br-83P	1.289387E+007	2.123922E+004	1.236852E+000	1.152282E+002	0.000000E+000	1.676106E-001	0.000000E+000	6.782991E-007				
Br-84E	1.100736E+006	1.811642E+003	1.048195E-001	9.774587E+000	0.000000E+000	1.430348E-002	0.000000E+000	5.766554E-008				
Br-84O	3.404339E+004	5.643474E+001	3.277039E-003	3.055761E-001	0.000000E+000	4.444849E-004	0.000000E+000	1.797559E-009				
Br-84P	2.156081E+007	3.552072E+004	2.069111E+000	1.927364E+002	0.000000E+000	2.803537E-001	0.000000E+000	1.135039E-006				
Kr-85	1.517079E+006	2.514451E+003	1.459555E-001	1.361247E+001	0.000000E+000	1.980044E-002	0.000000E+000	8.003198E-008				
Kr-85m	3.534409E+007	5.858155E+004	3.400610E+000	3.171496E+002	0.000000E+000	4.613196E-001	0.000000E+000	1.864742E-006				
Kr-87	6.303501E+007	1.044839E+005	6.065864E+000	5.656873E+002	0.000000E+000	8.228376E-001	0.000000E+000	3.326610E-006				
Kr-88	8.636132E+007	1.431426E+005	8.309512E+000	7.749567E+002	0.000000E+000	1.127237E+000	0.000000E+000	4.556677E-006				
Rb-86	2.883792E+005	4.750088E+002	2.765961E-002	2.576943E+000	0.000000E+000	3.748412E-003	0.000000E+000	1.516753E-008				
Sr-89	1.092814E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sr-91	1.404004E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sr-92	1.453305E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Y-90	1.270450E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Y-91	1.391925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Y-92	1.463501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Y-93	1.674786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Zr-95	1.822019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Zr-97	1.789800E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Nb-95	1.827849E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Mo-99	2.007897E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Tc-99m	1.748938E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Ru-103	1.766864E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Ru-105	1.281764E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Ru-106	7.694850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Rh-105	1.205829E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sb-125	2.172002E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sb-127	8.731638E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Sb-129	3.611104E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Te-127	1.254361E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Te-127m	1.680105E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Te-129	3.475939E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Te-129m	7.780564E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000				
Te-131m	1.593174E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000							

I-133P	2.044747E+008	3.368055E+005	1.961225E+001	1.827192E+003	0.000000E+000	2.657828E+000	0.000000E+000	1.075475E-005
I-134E	1.106952E+007	1.821742E+004	1.053887E+000	9.828372E+001	0.000000E+000	1.438219E-001	0.000000E+000	5.797032E-007
I-134O	3.423564E+005	5.674935E+002	3.294834E-002	3.072575E+000	0.000000E+000	4.469307E-003	0.000000E+000	1.807060E-008
I-134P	2.168257E+008	3.571874E+005	2.080347E+001	1.937969E+003	0.000000E+000	2.818963E+000	0.000000E+000	1.141038E-005
I-135E	9.720195E+006	1.599527E+004	9.251581E-001	8.628692E+001	0.000000E+000	1.262666E-001	0.000000E+000	5.087973E-007
I-135O	3.006246E+005	4.982710E+002	2.892382E-002	2.697528E+000	0.000000E+000	3.923771E-003	0.000000E+000	1.586031E-008
I-135P	1.903956E+008	3.136179E+005	1.826240E+001	1.701415E+003	0.000000E+000	2.474873E+000	0.000000E+000	1.001473E-005
Xe-133	2.120588E+008	3.514725E+005	2.040184E+001	1.902767E+003	0.000000E+000	2.767727E+000	0.000000E+000	1.118699E-005
Xe-135	8.389948E+007	1.390588E+005	8.072073E+000	7.528304E+002	0.000000E+000	1.095052E+000	0.000000E+000	4.426266E-006
Cs-134	3.203848E+007	5.277273E+004	3.072938E+000	2.862942E+002	0.000000E+000	4.164426E-001	0.000000E+000	1.685088E-006
Cs-136	9.398603E+006	1.548107E+004	9.014583E-001	8.398549E+001	0.000000E+000	1.221650E-001	0.000000E+000	4.943273E-007
Cs-137	1.641027E+007	2.703045E+004	1.573974E+000	1.466413E+002	0.000000E+000	2.133040E-001	0.000000E+000	8.631103E-007
Cs-138	1.869455E+008	3.079858E+005	1.794035E+001	1.671136E+003	0.000000E+000	2.430828E+000	0.000000E+000	9.841378E-006
Ba-139	1.904511E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926238E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980265E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.798875E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.707133E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786008E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701014E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397818E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666655E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.447565E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.173564E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.567287E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170049E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480714E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1080.000000 Seconds  
CPU ClockTime = 2.090000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	0.00008	0.00115	0.00005	0.00013	0.00013 ending at	1080.0 Sec	
LPZ	0.00002	0.00024	0.00001	0.00003			
ContolRoom	0.00000	0.00046	0.00002	0.00002			

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.977576E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155264E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.673741E+004	8.833807E+002	1.366225E+001	7.184244E+001	1.371497E-003	1.366908E-001	0.000000E+000	2.417673E-009
Br-82O	1.136208E+003	3.088973E+001	5.119173E-001	2.676361E+000	4.888878E-005	4.588414E-003	0.000000E+000	7.763689E-011
Br-82P	7.195987E+005	1.759090E+004	3.065918E+002	1.574436E+003	2.933278E-002	2.707084E+000	0.000000E+000	4.845676E-008
Br-83E	6.065454E+005	1.458542E+004	2.255933E+002	1.186230E+003	2.264647E-002	2.256974E+000	0.000000E+000	3.992441E-008
Br-83O	1.875913E+004	5.100177E+002	8.452860E+000	4.419087E+001	8.072631E-004	7.576173E-002	0.000000E+000	1.282063E-009
Br-83P	1.188079E+007	2.904419E+005	5.062493E+003	2.599638E+004	4.843499E-001	4.469809E+001	0.000000E+000	8.001945E-007
Br-84E	7.598981E+005	1.827563E+004	2.827509E+002	1.486572E+003	2.838481E-002	2.828404E+000	0.000000E+000	5.005607E-008
Br-84O	2.350200E+004	6.390557E+002	1.059453E+001	5.537959E+001	1.011814E-003	9.494342E-002	0.000000E+000	1.607419E-009
Br-84P	1.488460E+007	3.639257E+005	6.345155E+003	3.257843E+004	6.070784E-001	5.601494E+001	0.000000E+000	1.003263E-006
Kr-85	1.517076E+006	4.124416E+004	6.835112E+002	3.573483E+003	6.527621E-002	6.126461E+000	0.000000E+000	3.005821E-006
Kr-85m	3.382816E+007	9.196927E+005	1.524210E+004	7.968594E+004	1.455644E+000	1.366153E+002	0.000000E+000	6.703336E-005
Kr-87	5.400363E+007	1.468287E+006	2.433664E+004	1.272255E+005	2.324203E+000	2.181177E+002	0.000000E+000	1.070482E-004
Kr-88	8.059108E+007	2.191072E+006	3.631363E+004	1.898459E+005	3.468013E+000	3.254757E+002	0.000000E+000	1.597101E-004
Rb-86	2.882527E+005	7.046445E+003	1.228118E+002	6.306753E+002	1.174986E-002	1.084382E+000	0.000000E+000	1.941027E-008
Sr-89	1.092637E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.375277E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.351711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391731E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.384520E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.642848E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.768999E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827421E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.692711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766496E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.226304E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694681E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.199158E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171984E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.713050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.453468E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.228426E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679979E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.934571E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778669E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.583547E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.523519E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.294506E+007	0.000000E+000						

I-132P	1.334778E+008	3.263052E+006	5.687627E+004	2.920645E+005	5.441592E+000	5.021745E+002	0.000000E+000	8.990096E-006
I-133E	1.034087E+007	2.486551E+005	3.845682E+003	2.022233E+004	3.860520E-001	3.847596E+001	0.000000E+000	6.805351E-007
I-133O	3.198207E+005	8.694879E+003	1.440956E+002	7.533468E+002	1.376133E-002	1.291555E+000	0.000000E+000	2.185350E-008
I-133P	2.025531E+008	4.951509E+006	8.630016E+004	4.431751E+005	8.256660E+000	7.619946E+002	0.000000E+000	1.363978E-005
I-134E	8.847852E+006	2.127766E+005	3.291488E+003	1.730633E+004	3.304231E-001	3.292772E+001	0.000000E+000	5.826043E-007
I-134O	2.736449E+005	7.440293E+003	1.233303E+002	6.447165E+002	1.177836E-002	1.105312E+000	0.000000E+000	1.870878E-008
I-134P	1.733084E+008	4.237054E+006	7.386360E+004	3.792706E+005	7.066902E+000	6.521148E+002	0.000000E+000	1.167700E-005
I-135E	9.433937E+006	2.268494E+005	3.508508E+003	1.844914E+004	3.522050E-001	3.510218E+001	0.000000E+000	6.208827E-007
I-135O	2.917712E+005	7.932386E+003	1.314619E+002	6.872895E+002	1.255481E-002	1.178304E+000	0.000000E+000	1.993794E-008
I-135P	1.847884E+008	4.517289E+006	7.873370E+004	4.043152E+005	7.532759E+000	6.951788E+002	0.000000E+000	1.244418E-005
Xe-133	2.117280E+008	5.756171E+006	9.539325E+004	4.987276E+005	9.110179E+000	8.550299E+002	0.000000E+000	4.195041E-004
Xe-135	8.210820E+007	2.232267E+006	3.699463E+004	1.934106E+005	3.533039E+000	3.315873E+002	0.000000E+000	1.626935E-004
Cs-134	3.203813E+007	7.831840E+005	1.365004E+004	7.009701E+004	1.305949E+000	1.205247E+002	0.000000E+000	2.157371E-006
Cs-136	9.392761E+006	2.296096E+005	4.001845E+003	2.055066E+004	3.828713E-001	3.533479E+001	0.000000E+000	6.324871E-007
Cs-137	1.641026E+007	4.011548E+005	6.991687E+003	3.590440E+004	6.689205E-001	6.173398E+001	0.000000E+000	1.105027E-006
Cs-138	1.296541E+008	3.170011E+006	5.526986E+004	2.837771E+005	5.287992E+000	4.879227E+002	0.000000E+000	8.738935E-006
Ba-139	1.654574E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925002E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.970631E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.710533E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.502738E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785559E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.690958E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665650E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.442017E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.149747E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.558381E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480288E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789995E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1200.000000 Seconds  
CPU ClockTime = 2.310000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00342	0.03977	0.00175	0.00517	ending at	1200.0 Sec
LPZ	0.00071	0.00829	0.00036	0.00108		
ContolRoom	0.00000	0.00091	0.00004	0.00004		

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.977495E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155261E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.671337E+004	9.581101E+002	1.781534E+001	8.487670E+001	1.625472E-001	0.000000E+000	0.000000E+000	3.284045E-008
Br-82O	1.135465E+003	3.393322E+001	6.814411E-001	3.224424E+000	5.505638E-003	0.000000E+000	0.000000E+000	1.103601E-009
Br-82P	7.191279E+005	1.911092E+004	4.056134E+002	1.881732E+003	3.223961E+003	0.000000E+000	0.000000E+000	6.409613E-007
Br-83E	6.007341E+005	1.567797E+004	2.915422E+002	1.388928E+003	2.659929E+000	0.000000E+000	0.000000E+000	5.374632E-007
Br-83O	1.857941E+004	5.552639E+002	1.115156E+001	5.276469E+001	9.009450E-002	0.000000E+000	0.000000E+000	1.806141E-008
Br-83P	1.176696E+007	3.127201E+005	6.637728E+003	3.079280E+004	5.275704E+001	0.000000E+000	0.000000E+000	1.048990E-005
Br-84E	7.274826E+005	1.898854E+004	3.532058E+002	1.682463E+003	3.222060E+000	0.000000E+000	0.000000E+000	6.513225E-007
Br-84O	2.249946E+004	6.725138E+002	1.351021E+001	6.391596E+001	1.091344E-001	0.000000E+000	0.000000E+000	2.188773E-008
Br-84P	1.424966E+007	3.787543E+005	8.041664E+003	3.730054E+004	6.390633E+001	0.000000E+000	0.000000E+000	1.271220E-005
Kr-85	1.517076E+006	4.533749E+004	9.104546E+002	4.308075E+003	7.355951E+000	0.000000E+000	0.000000E+000	1.368570E-004
Kr-85m	3.365415E+007	1.005769E+006	2.019844E+004	9.557265E+004	1.631882E+002	0.000000E+000	0.000000E+000	3.036303E-003
Kr-87	5.303003E+007	1.584911E+006	3.183263E+004	1.506139E+005	2.571695E+002	0.000000E+000	0.000000E+000	4.785716E-003
Kr-88	7.993808E+007	2.389014E+006	4.797879E+004	2.270177E+005	3.876277E+002	0.000000E+000	0.000000E+000	7.212525E-003
Rb-86	2.882378E+005	7.659937E+003	1.625750E+002	7.542241E+002	1.292208E+000	0.000000E+000	0.000000E+000	2.569041E-007
Sr-89	1.092616E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.371937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.340235E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266106E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391708E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.375513E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.639131E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821758E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.766568E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827371E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001224E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.686216E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766452E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.219939E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694661E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.198376E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171982E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.710866E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.435381E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.225410E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679964E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.876699E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778446E+006	0.000000E+000	0.000000E+000	0.000				

I-131P	1.022739E+008	2.717935E+006	5.768566E+004	2.676175E+005	4.585075E+002	0.000000E+000	0.000000E+000	9.115605E-005
I-132E	6.745687E+006	1.760494E+005	3.273769E+003	1.559644E+004	2.986867E+001	0.000000E+000	0.000000E+000	6.035277E-006
I-132O	2.086295E+005	6.235111E+003	1.252224E+002	5.925010E+002	1.011682E+000	0.000000E+000	0.000000E+000	2.028150E-007
I-132P	1.321320E+008	3.511564E+006	7.453600E+004	3.457760E+005	5.924151E+002	0.000000E+000	0.000000E+000	1.177931E-004
I-133E	1.032939E+007	2.695669E+005	5.012415E+003	2.388034E+004	4.573320E+001	0.000000E+000	0.000000E+000	9.239822E-006
I-133O	3.194656E+005	9.547207E+003	1.917261E+002	9.072024E+002	1.549030E+000	0.000000E+000	0.000000E+000	3.105035E-007
I-133P	2.023282E+008	5.376909E+006	1.141209E+005	5.294317E+005	9.070721E+002	0.000000E+000	0.000000E+000	1.803376E-004
I-134E	8.617709E+006	2.249207E+005	4.183141E+003	1.992742E+004	3.816281E+001	0.000000E+000	0.000000E+000	7.712769E-006
I-134O	2.665271E+005	7.965980E+003	1.600062E+002	7.570329E+002	1.292613E+000	0.000000E+000	0.000000E+000	2.591870E-007
I-134P	1.688005E+008	4.486375E+006	9.524028E+004	4.417948E+005	7.569211E+002	0.000000E+000	0.000000E+000	1.505335E-004
I-135E	9.400819E+006	2.453364E+005	4.561958E+003	2.173404E+004	4.162280E+001	0.000000E+000	0.000000E+000	8.409623E-006
I-135O	2.907470E+005	8.689039E+003	1.744960E+002	8.256655E+002	1.409806E+000	0.000000E+000	0.000000E+000	2.826047E-007
I-135P	1.841397E+008	4.893596E+006	1.038650E+005	4.818478E+005	8.255466E+002	0.000000E+000	0.000000E+000	1.641343E-004
Xe-133	2.116892E+008	6.326291E+006	1.270430E+005	6.011395E+005	1.026434E+003	0.000000E+000	0.000000E+000	1.909677E-002
Xe-135	8.189999E+007	2.447590E+006	4.915285E+004	2.325783E+005	3.971226E+002	0.000000E+000	0.000000E+000	7.388675E-003
Cs-134	3.203809E+007	8.514141E+005	1.807046E+004	8.383318E+004	1.436309E+002	0.000000E+000	0.000000E+000	2.855528E-005
Cs-136	9.392074E+006	2.495950E+005	5.297420E+003	2.457599E+004	4.210591E+001	0.000000E+000	0.000000E+000	8.371087E-006
Cs-137	1.641025E+007	4.361034E+005	9.255883E+003	4.294026E+004	7.356930E+001	0.000000E+000	0.000000E+000	1.462632E-005
Cs-138	1.241906E+008	3.300964E+006	7.008534E+004	3.250854E+005	5.569628E+002	0.000000E+000	0.000000E+000	1.107899E-004
Ba-139	1.627415E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.924856E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.969501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.700429E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.480360E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785506E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.689778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397773E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665532E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.441364E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.146951E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.557336E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480238E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789995E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 1800.000000 Seconds  
CPU ClockTime = 3.300000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.01310	0.14907	0.00655	0.01966	0.01966 ending at	1800.0 Sec
LPZ	0.00273	0.03106	0.00137	0.00410		
ContolRoom	0.00004	0.00834	0.00037	0.00041		

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	5.977089E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155243E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.659343E+004	1.277767E+003	4.698648E+001	1.548648E+002	1.723917E-001	0.000000E+000	0.000000E+000	1.145543E-007
Br-82O	1.131756E+003	4.811182E+001	1.988394E+000	6.468716E+000	6.325358E-003	0.000000E+000	0.000000E+000	4.074464E-009
Br-82P	7.167785E+005	2.568872E+004	1.147983E+003	3.630453E+003	3.464837E+000	0.000000E+000	0.000000E+000	2.113407E-006
Br-83E	5.725026E+005	1.999135E+004	7.351853E+002	2.423041E+003	2.697265E+000	0.000000E+000	0.000000E+000	1.792534E-006
Br-83O	1.770627E+004	7.527355E+002	3.111189E+001	1.012107E+002	9.896746E-002	0.000000E+000	0.000000E+000	6.375680E-008
Br-83P	1.121397E+007	4.019139E+005	1.796221E+004	5.680273E+004	5.421134E+001	0.000000E+000	0.000000E+000	3.307037E-005
Br-84E	5.850044E+005	2.043080E+004	7.515648E+002	2.476686E+003	2.756957E+000	0.000000E+000	0.000000E+000	1.832981E-006
Br-84O	1.809292E+004	7.692819E+002	3.180505E+001	1.034515E+002	1.011577E-001	0.000000E+000	0.000000E+000	6.519543E-008
Br-84P	1.145885E+007	4.107486E+005	1.836240E+004	5.806038E+004	5.541109E+001	0.000000E+000	0.000000E+000	3.381658E-005
Kr-85	1.517074E+006	6.449184E+004	2.665342E+003	8.671011E+003	8.478848E+000	0.000000E+000	0.000000E+000	5.263779E-004
Kr-85m	3.279741E+007	1.394270E+006	5.762544E+004	1.874658E+005	1.833110E+002	0.000000E+000	0.000000E+000	1.138092E-002
Kr-87	4.841909E+007	2.058484E+006	8.508705E+004	2.767888E+005	2.706534E+002	0.000000E+000	0.000000E+000	1.680634E-002
Kr-88	7.675164E+007	3.262875E+006	1.348587E+005	4.387140E+005	4.289904E+002	0.000000E+000	0.000000E+000	2.663499E-002
Rb-86	2.881634E+005	1.032750E+004	4.615153E+002	1.459528E+003	1.392946E+000	0.000000E+000	0.000000E+000	8.496330E-007
Sr-89	1.092512E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232039E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.355354E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.284303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.263825E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391593E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.331349E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.620671E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821621E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.754462E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827120E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	1.997721E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.654113E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766236E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.188607E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.194471E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
SB-125	2.171972E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
SB-127	8.699954E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
SB-129	3.346357E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.210442E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679899E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.604012E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.777332E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.576786E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.502812E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	5.416972E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Te-134	1.080659E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.218225E+006	1.822092E+005	6.700228E+003	2.208362E+004	2.458296E+001	0.000000E+000	0.000000E+000	1.633527E-005
I-131O	1.613884E+005	6.860733E+003	2.835431E+002	9.224349E+002	9.019923E-001	0.000000E+000	0.000000E+000	5.810123E-007
I-131P	1.022127E+008	3.663204E+006	1.637014E+005	5.177004E+005	4.940837E+002	0.000000E+000	0.000000E+000	3.013685E-004
I-132E	6.412407E+006	2.239168E+005	8.234614E+003	2.713978E+004	3.021128E+001	0.000000E+000	0.000000E+000	2.007778E-005
I-132O	1.983218E+005	8.431151E+003	3.484759E+002	1.133632E+003	1.108505E+000	0.000000E+000	0.000000E+000	7.141257E-007
I-132P	1.256038E+008	4.501710E+006	2.011899E+005	6.362309E+005	6.072054E+002	0.000000E+000	0.000000E+000	3.704139E-004
I-133E	1.027218E+007	3.586839E+005	1.318970E+004	4.347241E+004	4.839244E+001	0.000000E+000	0.000000E+000	3.215697E-005
I-133O	3.176962E+005	1.350554E+004	5.581672E+002	1.815847E+003	1.775604E+000	0.000000E+000	0.000000E+000	1.143758E-006
I-133P	2.012076E+008	7.211119E+006	3.222534E+005	1.019112E+006	9.726216E+002	0.000000E+000	0.000000E+000	5.932621E-004
I-134E	7.553736E+006	2.637891E+005	9.702278E+003	3.197484E+004	3.559340E+001	0.000000E+000	0.000000E+000	2.365941E-005
I-134O	2.336207E+005	9.932464E+003	4.105853E+002	1.335593E+003	1.305985E+000	0.000000E+000	0.000000E+000	8.415172E-007
I-134P	1.479598E+008	5.303317E+006	2.370482E+005	7.495784E+005	7.153787E+002	0.000000E+000	0.000000E+000	4.364913E-004
I-135E	9.236963E+006	3.225395E+005	1.186082E+004	3.909214E+004	4.351640E+001	0.000000E+000	0.000000E+000	2.891769E-005
I-135O	2.856792E+005	1.214460E+004	5.019313E+002	1.632883E+003	1.596694E+000	0.000000E+000	0.000000E+000	1.028543E-006
I-135P	1.809302E+008	6.484458E+006	2.897861E+005	9.164268E+005	8.746200E+002	0.000000E+000	0.000000E+000	5.335009E-004
Xe-133	2.114949E+008	8.990799E+006	3.715755E+005	1.208825E+006	1.182036E+003	0.000000E+000	0.000000E+000	7.338250E-002
Xe-135	8.086684E+007	3.437740E+006	1.420793E+005	4.622140E+005	4.519703E+002	0.000000E+000	0.000000E+000	2.805979E-002
Cs-134	3.203789E+007	1.148207E+006	5.131105E+004	1.622696E+005	1.548671E+002	0.000000E+000	0.000000E+000	9.446175E-005
Cs-136	9.388639E+006	3.364798E+005	1.503661E+004	4.755282E+004	4.538354E+001	0.000000E+000	0.000000E+000	2.768187E-005
Cs-137	1.641025E+007	5.881273E+005	2.628223E+004	8.311674E+004	7.932509E+001	0.000000E+000	0.000000E+000	4.838461E-005
Cs-138	1.001385E+008	3.589511E+006	1.604674E+005	5.073854E+005	4.842336E+002	0.000000E+000	0.000000E+000	2.955187E-004
Ba-139	1.498162E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.924130E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.963859E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.650798E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.373373E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785241E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.683895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397749E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.664941E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.438103E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.132990E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.552114E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409446E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170044E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.479987E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789994E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 7200.000000 Seconds  
CPU ClockTime = 12.310000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	3.90294	20.97173	1.51332	5.41626	5.41626 ending at	7200.0 Sec
LPZ	0.81311	4.36911	0.31527	1.12839		
ContolRoom	0.05187	4.26592	0.28988	0.34175		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	7.886535E+002	4.859043E+001	9.702808E+001	4.806668E-001	0.000000E+000	0.000000E+000	1.102901E-006
Co-60	9.446629E+002	5.820246E+001	1.162219E+002	5.757510E-001	0.000000E+000	0.000000E+000	1.321074E-006
Br-82E	3.598755E+003	9.553642E+001	3.291438E+002	2.644861E+000	0.000000E+000	0.000000E+000	1.040298E-005
Br-82O	1.907181E+002	7.721728E+001	6.139652E+001	1.330505E-001	0.000000E+000	0.000000E+000	4.743836E-007
Br-82P	9.774532E+004	6.233772E+003	1.233934E+004	6.699536E+001	0.000000E+000	0.000000E+000	1.711277E-004
Br-83E	3.760012E+004	9.982627E+002	3.439105E+003	2.763482E+001	0.000000E+000	0.000000E+000	1.087076E-004
Br-83O	1.992640E+003	8.069363E+002	6.415913E+002	1.390194E+000	0.000000E+000	0.000000E+000	4.957186E-006
Br-83P	1.021252E+006	6.513813E+004	1.289319E+005	7.000015E+002	0.000000E+000	0.000000E+000	1.788229E-003
Br-84E	8.333058E+003	2.213132E+002	7.623358E+002	6.125408E+000	0.000000E+000	0.000000E+000	2.410587E-005
Br-84O	4.416152E+002	1.789725E+002	1.422878E+002	3.081573E-001	0.000000E+000	0.000000E+000	1.099283E-006
Br-84P	2.263331E+005	1.444208E+004	2.858208E+004	1.551598E+002	0.000000E+000	0.000000E+000	3.965405E-004
Kr-85	9.341581E+005	3.198842E+005	2.615497E+005	5.890195E+002	0.000000E+000	0.000000E+000	1.835725E-001
Kr-85m	1.603132E+007	5.483958E+006	4.483834E+006	1.009711E+004	0.000000E+000	0.000000E+000	3.147038E+000
Kr-87	1.314985E+007	4.504577E+006	3.682938E+006	8.292232E+003	0.000000E+000	0.000000E+000	2.584908E+000
Kr-88	3.277374E+007	1.122459E+007	9.177459E+006	2.066588E+004	0.000000E+000	0.000000E+000	6.441315E+000
Rb-86	3.278522E+004	2.107306E+003	4.163140E+003	2.304757E+001	0.000000E+000	0.000000E+000	6.007240E-005
Sr-89	1.152938E+006	7.103470E+004	1.418460E+005	7.026901E+002	0.000000E+000	0.000000E+000	1.612339E-003
Sr-90	1.301293E+005	8.017510E+003	1.600981E+004	7.931089E+001	0.000000E+000	0.000000E+000	1.819807E-004
Sr-91	1.283153E+006	7.905976E+004	1.578694E+005	7.820615E+002	0.000000E+000	0.000000E+000	1.794513E-003
Sr-92	9.243012E+005	5.695373E+004	1.137244E+005	5.633621E+002	0.000000E+000	0.000000E+000	1.292785E-003
Y-90	1.313389E+003	8.092070E+001	1.615867E+002	8.004825E-001	0.000000E+000	0.000000E+000	1.836734E-006
Y-91	1.468734E+004	9.049145E+002	1.806984E+003	8.951604E+000	0.000000E+000	0.000000E+000	2.053967E-005
Y-92	1.048337E+004	6.459506E+002	1.289836E+003	6.389565E+000	0.000000E+000	0.000000E+000	1.466220E-005
Y-93	1.545902E+004	9.524853E+002	1.901958E+003	9.422024E+000	0.000000E+000	0.000000E+000	2.161967E-005
Zr-95	1.922722E+004	1.184625E+003	2.365526E+003	1.171856E+001	0.000000E+000	0.000000E+000	2.688852E-005
Zr-97	1.741891E+004	1.073230E+003	2.143073E+003	1.061650E+001	0.000000E+000	0.000000E+000	2.436023E-005
Nb-95	1.927442E+004	1.187534E+003	2.371333E+003	1.174733E+001	0.000000E+000	0.000000E+000	2.695453E-005
Mo-99	2.596272E+005	1.599619E+004	3.194203E+004	1.582373E+002	0.000000E+000	0.000000E+000	3.630807E-004
Tc-99m	1.836970E+005	1.131844E+004	2.260093E+004	1.119611E+002	0.000000E+000	0.000000E+000	2.569097E-004
Ru-103	2.329335E+005	1.435147E+004	2.865782E+004	1.419678E+002	0.000000E+000	0.000000E+000	3.257485E-004
Ru-105	1.241683E+005	7.650715E+003	1.527705E+004	7.567951E+001	0.000000E+000	0.000000E+000	1.736597E-004
Ru-106	1.015771E+005	6.258354E+003	1.249703E+004	6.190896E+001	0.000000E+000	0.000000E+000	1.420516E-004
Rh-105	1.531382E+005	9.435209E+003	1.884070E+004	9.333462E+001	0.000000E+000	0.000000E+000	2.141602E-004
Sb-125	5.734926E+004	3.533396E+003	7.055681E+003	3.495309E+001	0.000000E+000	0.000000E+000	8.020069E-005
Sb-127	2.271486E+006	1.399510E+005	2.794616E+005	1.384422E+003	0.000000E+000	0.000000E+000	3.176598E-003
Sb-129	6.976703E+005	4.298747E+004	8.583793E+004	4.252243E+002	0.000000E+000	0.000000E+000	9.757509E-004
Te-127	2.861568E+005	1.763117E+004	3.520656E+004	1.744081E+002	0.000000E+000	0.000000E+000	4.001956E-004
Te-127m	4.434048E+004	2.731901E+003	5.455211E+003	2.702454E+001	0.000000E+000	0.000000E+000	6.200844E-005
Te-129	2.806134E+005	1.729323E+004	3.452925E+004	1.710426E+002	0.000000E+000	0.000000E+000	3.925868E-004
Te-129m	2.050988E+005	1.263652E+004	2.523331E+004	1.250031E+002	0.000000E+000	0.000000E+000	2.868227E-004

Te-131m	4.032085E+005	2.484264E+004	4.960703E+004	2.457474E+002	0.000000E+000	0.000000E+000	5.638780E-004
Te-132	3.962778E+006	2.441551E+005	4.875419E+005	2.415228E+003	0.000000E+000	0.000000E+000	5.541818E-003
Te-133m	4.639341E+005	2.859239E+004	5.708901E+004	2.827886E+002	0.000000E+000	0.000000E+000	6.490674E-004
Te-134	6.462141E+005	3.983015E+004	7.952429E+004	3.939102E+002	0.000000E+000	0.000000E+000	9.042082E-004
I-131E	5.256795E+005	1.395518E+004	4.807875E+004	3.863409E+002	0.000000E+000	0.000000E+000	1.519576E-003
I-131O	2.785869E+004	1.127920E+004	8.968256E+003	1.943498E+001	0.000000E+000	0.000000E+000	6.929381E-005
I-131P	1.427792E+007	9.105775E+005	1.802433E+006	9.786165E+003	0.000000E+000	0.000000E+000	2.499684E-002
I-132E	4.116532E+005	1.092922E+004	3.765207E+004	3.025518E+002	0.000000E+000	0.000000E+000	1.190162E-003
I-132O	2.181580E+004	8.834589E+003	7.024332E+003	1.522014E+001	0.000000E+000	0.000000E+000	5.427267E-005
I-132P	1.118086E+007	7.131488E+005	1.411576E+006	7.663765E+003	0.000000E+000	0.000000E+000	1.957803E-002
I-133E	9.896777E+005	2.627317E+004	9.051663E+004	7.273530E+002	0.000000E+000	0.000000E+000	2.860898E-003
I-133O	5.244854E+004	2.123540E+004	1.688454E+004	3.658973E+001	0.000000E+000	0.000000E+000	1.304592E-004
I-133P	2.688051E+007	1.714332E+006	3.393401E+006	1.842414E+004	0.000000E+000	0.000000E+000	4.706143E-002
I-134E	2.337100E+005	6.205909E+003	2.137842E+004	1.717813E+002	0.000000E+000	0.000000E+000	6.758806E-004
I-134O	1.238560E+004	5.017538E+003	3.989250E+003	8.641789E+000	0.000000E+000	0.000000E+000	3.082129E-005
I-134P	6.347767E+006	4.049595E+005	8.015058E+005	4.351301E+003	0.000000E+000	0.000000E+000	1.111818E-002
I-135E	7.986295E+005	2.120189E+004	7.304425E+004	5.869503E+002	0.000000E+000	0.000000E+000	2.308722E-003
I-135O	4.232383E+004	1.713703E+004	1.362579E+004	2.952681E+001	0.000000E+000	0.000000E+000	1.052797E-004
I-135P	2.169148E+007	1.383436E+006	2.738389E+006	1.486769E+004	0.000000E+000	0.000000E+000	3.797820E-002
Xe-133	1.291606E+008	4.422871E+007	3.616309E+007	8.144041E+004	0.000000E+000	0.000000E+000	2.538158E+001
Xe-135	4.441945E+007	1.521136E+007	1.243731E+007	2.800840E+004	0.000000E+000	0.000000E+000	8.729300E+000
Cs-134	3.653314E+006	2.348206E+005	4.639056E+005	2.568230E+003	0.000000E+000	0.000000E+000	6.693965E-003
Cs-136	1.067139E+006	6.859158E+004	1.355077E+005	7.501848E+002	0.000000E+000	0.000000E+000	1.955321E-003
Cs-137	1.871378E+006	1.202848E+005	2.376316E+005	1.315553E+003	0.000000E+000	0.000000E+000	3.428924E-003
Cs-138	1.645656E+006	1.058318E+005	2.090415E+005	1.157094E+003	0.000000E+000	0.000000E+000	3.017529E-003
Ba-139	7.514233E+005	4.630574E+004	9.245961E+004	4.580090E+002	0.000000E+000	0.000000E+000	1.051129E-003
Ba-140	2.025402E+006	1.247889E+005	2.491854E+005	1.234438E+003	0.000000E+000	0.000000E+000	2.832448E-003
La-140	2.021395E+004	1.245428E+003	2.486935E+003	1.231999E+001	0.000000E+000	0.000000E+000	2.826870E-005
La-141	1.335599E+004	8.229460E+002	1.643264E+003	8.140392E+000	0.000000E+000	0.000000E+000	1.867970E-005
La-142	7.385106E+003	4.550917E+002	9.086965E+002	4.501354E+000	0.000000E+000	0.000000E+000	1.033039E-005
Ce-141	4.707717E+004	2.900514E+003	5.791907E+003	2.869249E+001	0.000000E+000	0.000000E+000	6.583561E-005
Ce-143	4.308984E+004	2.654868E+003	5.301373E+003	2.626238E+001	0.000000E+000	0.000000E+000	6.026016E-005
Ce-144	3.690247E+004	2.273631E+003	4.540113E+003	2.249124E+001	0.000000E+000	0.000000E+000	5.160667E-005
Pr-143	1.752931E+004	1.080015E+003	2.156633E+003	1.068373E+001	0.000000E+000	0.000000E+000	2.451408E-005
Nd-147	7.825301E+003	4.821320E+002	9.627478E+002	4.769349E+000	0.000000E+000	0.000000E+000	1.094339E-005
Np-238	1.586639E+004	9.775634E+002	1.952049E+003	9.670230E+000	0.000000E+000	0.000000E+000	2.218869E-005
Np-239	6.616129E+005	4.076342E+004	8.139852E+004	4.032391E+002	0.000000E+000	0.000000E+000	9.252462E-004
Pu-238	1.956489E+002	1.205430E+001	2.407069E+001	1.192437E-001	0.000000E+000	0.000000E+000	2.736074E-007
Pu-239	1.410327E+001	8.689288E-001	1.735126E+000	8.595627E-003	0.000000E+000	0.000000E+000	1.972287E-008
Pu-240	2.136139E+001	1.316116E+000	2.628093E+000	1.301929E-002	0.000000E+000	0.000000E+000	2.987307E-008
Pu-241	5.730034E+003	3.530382E+002	7.049663E+002	3.492328E+000	0.000000E+000	0.000000E+000	8.013228E-006
Am-241	2.944546E+000	1.814190E-001	3.622676E-001	1.794635E-003	0.000000E+000	0.000000E+000	4.117833E-009
Cm-242	8.954305E+002	5.516916E+001	1.101649E+002	5.457450E-001	0.000000E+000	0.000000E+000	1.252225E-006
Cm-244	1.890606E+002	1.164838E+001	2.326013E+001	1.152282E-001	0.000000E+000	0.000000E+000	2.643938E-007

Time = 7201.000000 Seconds  
CPU ClockTime = 12.310000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	3.90448	20.97955	1.51389	5.41837	5.41837 ending at	7201.0 Sec
LPZ	0.81327	4.36989	0.31533	1.12860		
ContolRoom	0.05190	4.26798	0.29002	0.34192		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	2.877822E+002	5.023643E+001	5.968815E+002	4.808375E-001	0.000000E+000	0.000000E+000	1.103298E-006
Co-60	3.447105E+002	6.017407E+001	7.149551E+002	5.759555E-001	0.000000E+000	0.000000E+000	1.321550E-006
Br-82E	1.276088E+003	1.030108E+002	2.646701E+003	2.645485E+000	0.000000E+000	0.000000E+000	1.040611E-005
Br-82O	8.194481E+001	7.763456E+001	1.699596E+002	1.331021E-001	0.000000E+000	0.000000E+000	4.745482E-007
Br-82P	3.576937E+004	6.437544E+003	7.418832E+004	6.701462E+001	0.000000E+000	0.000000E+000	1.711752E-004
Br-83E	1.333175E+004	1.076278E+003	2.765103E+004	2.763926E+001	0.000000E+000	0.000000E+000	1.087323E-004
Br-83O	8.561403E+002	8.112356E+002	1.775698E+003	1.390628E+000	0.000000E+000	0.000000E+000	4.958534E-006
Br-83P	3.736968E+005	6.726221E+004	7.750748E+005	7.001503E+002	0.000000E+000	0.000000E+000	1.788592E-003
Br-84E	2.953837E+003	2.385382E+002	6.126476E+003	6.124660E+000	0.000000E+000	0.000000E+000	2.410451E-005
Br-84O	1.897181E+002	1.798746E+002	3.934895E+002	3.081664E-001	0.000000E+000	0.000000E+000	1.099271E-006
Br-84P	8.279895E+004	1.490867E+004	1.717312E+005	1.551489E+002	0.000000E+000	0.000000E+000	3.965087E-004
Kr-85	3.886326E+005	3.219296E+005	8.060527E+005	5.892747E+002	0.000000E+000	0.000000E+000	1.836475E-001
Kr-85m	6.661696E+006	5.518782E+006	1.381685E+007	1.010105E+004	0.000000E+000	0.000000E+000	3.148189E+000
Kr-87	5.470214E+006	4.532684E+006	1.134563E+007	8.294567E+003	0.000000E+000	0.000000E+000	2.585572E+000
Kr-88	1.363418E+007	1.129559E+007	2.827831E+007	2.067343E+004	0.000000E+000	0.000000E+000	6.443510E+000
Rb-86	1.200555E+004	2.175650E+003	2.490040E+004	2.305402E+001	0.000000E+000	0.000000E+000	6.008858E-005
Sr-89	4.207107E+005	7.344099E+004	8.725852E+005	7.029396E+002	0.000000E+000	0.000000E+000	1.612919E-003
Sr-90	4.748459E+004	8.289103E+003	9.848656E+004	7.933907E+001	0.000000E+000	0.000000E+000	1.820462E-004
Sr-91	4.682181E+005	8.173620E+004	9.711190E+005	7.823234E+002	0.000000E+000	0.000000E+000	1.795122E-003
Sr-92	3.372590E+005	5.887873E+004	6.995001E+005	5.635221E+002	0.000000E+000	0.000000E+000	1.293158E-003
Y-90	4.792585E+002	8.366163E+001	9.940176E+002	8.007644E-001	0.000000E+000	0.000000E+000	1.837389E-006
Y-91	5.359455E+003	9.356684E+002	1.111591E+004	8.954783E+000	0.000000E+000	0.000000E+000	2.054706E-005
Y-92	3.825229E+003	6.677947E+002	7.933809E+003	6.391487E+000	0.000000E+000	0.000000E+000	1.466668E-005
Y-93	5.640952E+003	9.847316E+002	1.169975E+004	9.425194E+000	0.000000E+000	0.000000E+000	2.162704E-005
Zr-95	7.016074E+003	1.224755E+003	1.455186E+004	1.172273E+001	0.000000E+000	0.000000E+000	2.689820E-005
Zr-97	6.356152E+003	1.109572E+003	1.318313E+004	1.062015E+001	0.000000E+000	0.000000E+000	2.436872E-005
Nb-95	7.033295E+003	1.227761E+003	1.458758E+004	1.175150E+001	0.000000E+000	0.000000E+000	2.696422E-005
Mo-99	9.473856E+004	1.653801E+004	1.964948E+005	1.582930E+002	0.000000E+000	0.000000E+000	3.632103E-004
Tc-99m	6.702970E+004	1.170146E+004	1.390246E+005	1.119973E+002	0.000000E+000	0.000000E+000	2.569939E-004
Ru-103	8.499815E+004	1.483763E+004	1.762925E+005	1.420182E+002	0.000000E+000	0.000000E+000	3.258656E-004
Ru-105	4.530763E+004	7.909529E+003	9.397138E+004	7.570311E+001	0.000000E+000	0.000000E+000	1.737146E-004
Ru-106	3.706580E+004	6.470356E+003	7.687721E+004	6.193095E+001	0.000000E+000	0.000000E+000	1.421027E-004
Rh-105	5.588036E+004	9.754772E+003	1.159000E+005	9.336727E+001	0.000000E+000	0.000000E+000	2.142361E-004
Sb-125	2.092693E+004	3.653089E+003	4.340400E+004	3.496551E+001	0.000000E+000	0.000000E+000	8.022955E-005
SD-127	8.288710E+005	1.446915E+005	1.719140E+006	1.384911E+003	0.000000E+000	0.000000E+000	3.177734E-003
SD-129	2.545721E+005	4.444167E+004	5.280014E+005	4.253567E+002	0.000000E+000	0.000000E+000	9.760594E-004
Te-127	1.044176E+005	1.822805E+004	2.165699E+005	1.744664E+002	0.000000E+000	0.000000E+000	4.003315E-004

Te-127m	1.617998E+004	2.824444E+003	3.355848E+004	2.703413E+001	0.000000E+000	0.000000E+000	6.203075E-005
Te-129	1.023815E+005	1.787598E+004	2.123467E+005	1.710749E+002	0.000000E+000	0.000000E+000	3.926347E-004
Te-129m	7.484117E+004	1.306458E+004	1.552261E+005	1.250475E+002	0.000000E+000	0.000000E+000	2.869259E-004
Te-131m	1.471313E+005	2.568403E+004	3.051612E+005	2.458332E+002	0.000000E+000	0.000000E+000	5.640776E-004
Te-132	1.446027E+006	2.524252E+005	2.999168E+006	2.416080E+003	0.000000E+000	0.000000E+000	5.543798E-003
Te-133m	1.692594E+005	2.955460E+004	3.510565E+005	2.828300E+002	0.000000E+000	0.000000E+000	6.491656E-004
Te-134	2.357474E+005	4.116773E+004	4.889576E+005	3.939418E+002	0.000000E+000	0.000000E+000	9.042848E-004
I-131E	1.864023E+005	1.504705E+004	3.866121E+005	3.864337E+002	0.000000E+000	0.000000E+000	1.520041E-003
I-131O	1.196992E+004	1.134020E+004	2.482649E+004	1.944259E+001	0.000000E+000	0.000000E+000	6.931815E-005
I-131P	5.224946E+006	9.403471E+005	1.083693E+007	9.789021E+003	0.000000E+000	0.000000E+000	2.500390E-002
I-132E	1.459579E+005	1.178330E+004	3.027274E+005	3.025992E+002	0.000000E+000	0.000000E+000	1.190426E-003
I-132O	9.373167E+003	8.881622E+003	1.944064E+004	1.522483E+001	0.000000E+000	0.000000E+000	5.428721E-005
I-132P	4.091287E+006	7.364006E+005	8.485632E+006	7.665362E+003	0.000000E+000	0.000000E+000	1.958193E-002
I-133E	3.509300E+005	2.832856E+004	7.278549E+005	7.275217E+002	0.000000E+000	0.000000E+000	2.861750E-003
I-133O	2.253525E+004	2.135008E+004	4.673977E+004	3.660376E+001	0.000000E+000	0.000000E+000	1.305040E-004
I-133P	9.836744E+006	1.770364E+006	2.040214E+007	1.842936E+004	0.000000E+000	0.000000E+000	4.707433E-002
I-134E	8.285487E+004	6.689929E+003	1.718471E+005	1.717850E+002	0.000000E+000	0.000000E+000	6.759396E-004
I-134O	5.321177E+003	5.043561E+003	1.103651E+004	8.643286E+000	0.000000E+000	0.000000E+000	3.082537E-005
I-134P	2.322487E+006	4.181047E+005	4.817011E+006	4.351619E+003	0.000000E+000	0.000000E+000	1.111889E-002
I-135E	2.831809E+005	2.286006E+004	5.873382E+005	5.870746E+002	0.000000E+000	0.000000E+000	2.309363E-003
I-135O	1.818487E+004	1.722922E+004	3.771677E+004	2.953755E+001	0.000000E+000	0.000000E+000	1.053137E-004
I-135P	7.937709E+006	1.428623E+006	1.646340E+007	1.487160E+004	0.000000E+000	0.000000E+000	3.798785E-002
Xe-133	5.373394E+007	4.451144E+007	1.114482E+008	8.147556E+004	0.000000E+000	0.000000E+000	2.539191E+001
Xe-135	1.847937E+007	1.530830E+007	3.832757E+007	2.801994E+004	0.000000E+000	0.000000E+000	8.732682E+000
Cs-134	1.337799E+006	2.424363E+005	2.774695E+006	2.568950E+003	0.000000E+000	0.000000E+000	6.695770E-003
Cs-136	3.907733E+005	7.081610E+004	8.104929E+005	7.503946E+002	0.000000E+000	0.000000E+000	1.955848E-003
Cs-137	6.852759E+005	1.241859E+005	1.421313E+006	1.315922E+003	0.000000E+000	0.000000E+000	3.429849E-003
Cs-138	6.024266E+005	1.092238E+005	1.249477E+006	1.157003E+003	0.000000E+000	0.000000E+000	3.017260E-003
Ba-139	2.741628E+005	4.786755E+004	5.686340E+005	4.581085E+002	0.000000E+000	0.000000E+000	1.051363E-003
Ba-140	7.390751E+005	1.290161E+005	1.532896E+006	1.234875E+003	0.000000E+000	0.000000E+000	2.833466E-003
La-140	7.376105E+003	1.287611E+003	1.529859E+004	1.232430E+001	0.000000E+000	0.000000E+000	2.827873E-005
La-141	4.873429E+003	8.507800E+002	1.010785E+004	8.142881E+000	0.000000E+000	0.000000E+000	1.868550E-005
La-142	2.694547E+003	4.704474E+002	5.588689E+003	4.502390E+000	0.000000E+000	0.000000E+000	1.033282E-005
Ce-141	1.717861E+004	2.998768E+003	3.562970E+004	2.870268E+001	0.000000E+000	0.000000E+000	6.585929E-005
Ce-143	1.572354E+004	2.744785E+003	3.261178E+004	2.627155E+001	0.000000E+000	0.000000E+000	6.028149E-005
Ce-144	1.346583E+004	2.350650E+003	2.792913E+004	2.249922E+001	0.000000E+000	0.000000E+000	5.162524E-005
Pr-143	6.396497E+003	1.116599E+003	1.326681E+004	1.068752E+001	0.000000E+000	0.000000E+000	2.452289E-005
Nd-147	2.855476E+003	4.984639E+002	5.922468E+003	4.771039E+000	0.000000E+000	0.000000E+000	1.094732E-005
Np-238	5.789677E+003	1.010674E+003	1.200822E+004	9.673629E+000	0.000000E+000	0.000000E+000	2.219660E-005
Np-239	2.414239E+005	4.214413E+004	5.007311E+005	4.033809E+002	0.000000E+000	0.000000E+000	9.255760E-004
Pu-238	7.139292E+001	1.246264E+001	1.480742E+002	1.192860E-001	0.000000E+000	0.000000E+000	2.737058E-007
Pu-239	5.146327E+000	8.983638E-001	1.067386E+001	8.598681E-003	0.000000E+000	0.000000E+000	1.972997E-008
Pu-240	7.794840E+000	1.360699E+000	1.616708E+001	1.302392E-002	0.000000E+000	0.000000E+000	2.988382E-008
Pu-241	2.090908E+003	3.649973E+002	4.336697E+003	3.493569E+000	0.000000E+000	0.000000E+000	8.016112E-006
Am-241	1.074474E+000	1.875646E-001	2.228539E+000	1.795273E-003	0.000000E+000	0.000000E+000	4.119315E-009
Cm-242	3.267454E+002	5.703802E+001	6.776943E+002	5.459388E-001	0.000000E+000	0.000000E+000	1.252675E-006
Cm-244	6.898880E+001	1.204297E+001	1.430879E+002	1.152691E-001	0.000000E+000	0.000000E+000	2.644889E-007

Time = 10080.000000 Seconds  
CPU ClockTime = 16.430000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	8.10447	41.09905	2.93635	11.04082	10.85655 ending at	10080.0 Sec
LPZ	1.23327	6.38184	0.45758	1.69084		
ContolRoom	0.14575	10.26146	0.69586	0.84160		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb.Bldg	ContolRoom
Co-58	1.236436E+002	1.404510E+001	1.977198E+001	3.776404E-001	0.000000E+000	0.000000E+000	1.155842E-006
Co-60	1.481491E+002	1.682875E+001	2.369066E+001	4.524864E-001	0.000000E+000	0.000000E+000	1.384923E-006
Br-82E	6.279913E+002	4.712686E+000	1.196494E+001	1.914105E+000	0.000000E+000	0.000000E+000	1.284772E-005
Br-82O	8.060635E+001	1.462367E+002	9.749644E+001	1.378766E-001	0.000000E+000	0.000000E+000	6.683177E-007
Br-82P	1.513359E+004	1.721140E+003	2.422930E+003	4.998868E+001	0.000000E+000	0.000000E+000	1.615273E-004
Br-83E	5.290183E+003	3.970481E+001	1.008027E+002	1.612494E+001	0.000000E+000	0.000000E+000	1.082409E-004
Br-83O	6.790525E+002	1.232223E+003	8.215330E+002	1.161569E+000	0.000000E+000	0.000000E+000	5.630828E-006
Br-83P	1.274854E+005	1.450140E+004	2.041393E+004	4.211200E+002	0.000000E+000	0.000000E+000	1.360905E-003
Br-84E	5.188615E+002	3.896207E+000	9.890565E+000	1.581749E+000	0.000000E+000	0.000000E+000	1.062217E-005
Br-84O	6.661140E+001	1.209788E+002	8.065980E+001	1.139640E-001	0.000000E+000	0.000000E+000	5.526201E-007
Br-84P	1.250395E+004	1.423249E+003	2.003397E+003	4.130967E+001	0.000000E+000	0.000000E+000	1.335530E-004
Kr-85	3.883323E+005	6.767565E+005	4.511977E+005	6.377200E+002	0.000000E+000	0.000000E+000	2.812661E-001
Kr-85m	5.881864E+006	1.025177E+007	6.834950E+006	9.659482E+003	0.000000E+000	0.000000E+000	4.260516E+000
Kr-87	3.532741E+006	6.159352E+006	4.106540E+006	5.802053E+003	0.000000E+000	0.000000E+000	2.559429E+000
Kr-88	1.120800E+007	1.953638E+007	1.302511E+007	1.840663E+004	0.000000E+000	0.000000E+000	8.118853E+000
Rb-86	5.153399E+003	5.862488E+002	8.252913E+002	1.731842E+001	0.000000E+000	0.000000E+000	5.657961E-005
Sr-89	1.807318E+005	2.052994E+004	2.890101E+004	5.520028E+002	0.000000E+000	0.000000E+000	1.689513E-003
Sr-90	2.040804E+004	2.318218E+003	3.263470E+003	6.233155E+001	0.000000E+000	0.000000E+000	1.907779E-004
Sr-91	1.898264E+005	2.156403E+004	3.035660E+004	5.797858E+002	0.000000E+000	0.000000E+000	1.774600E-003
Sr-92	1.181351E+005	1.342156E+004	1.889387E+004	3.608283E+002	0.000000E+000	0.000000E+000	1.104501E-003
Y-90	2.042032E+002	2.319628E+001	3.265453E+001	6.236914E-001	0.000000E+000	0.000000E+000	1.908938E-006
Y-91	2.302495E+003	2.615482E+002	3.681944E+002	7.032430E+000	0.000000E+000	0.000000E+000	2.152413E-005
Y-92	1.405728E+003	1.597014E+002	2.248165E+002	4.293578E+000	0.000000E+000	0.000000E+000	1.314238E-005
Y-93	2.296149E+003	2.608385E+002	3.671936E+002	7.013109E+000	0.000000E+000	0.000000E+000	2.146558E-005
Zr-95	3.014304E+003	3.424050E+002	4.820204E+002	9.206482E+000	0.000000E+000	0.000000E+000	2.817824E-005
Zr-97	2.643103E+003	3.002468E+002	4.226712E+002	8.072780E+000	0.000000E+000	0.000000E+000	2.470874E-005
Nb-95	3.020798E+003	3.431426E+002	4.830589E+002	9.226315E+000	0.000000E+000	0.000000E+000	2.823895E-005
Mo-99	4.037622E+004	4.586500E+003	6.456639E+003	1.233198E+002	0.000000E+000	0.000000E+000	3.774460E-004
Tc-99m	2.627001E+004	2.984319E+003	4.201140E+003	8.023680E+001	0.000000E+000	0.000000E+000	2.455919E-004
Ru-103	3.650931E+004	4.147216E+003	5.838242E+003	1.115091E+002	0.000000E+000	0.000000E+000	3.412955E-004
Ru-105	1.718700E+004	1.952524E+003	2.748636E+003	5.249475E+001	0.000000E+000	0.000000E+000	1.606807E-004
Ru-106	1.592928E+004	1.809460E+003	2.547266E+003	4.865221E+001	0.000000E+000	0.000000E+000	1.489096E-004
Rh-105	2.364331E+004	2.685756E+003	3.780867E+003	7.221310E+001	0.000000E+000	0.000000E+000	2.210241E-004
Sb-125	8.993839E+003	1.021640E+003	1.438214E+003	2.746956E+001	0.000000E+000	0.000000E+000	8.407596E-005

Sb-127	3.540987E+005	4.022345E+004	5.662452E+004	1.081512E+003	0.000000E+000	0.000000E+000	3.310190E-003
Sb-129	9.645989E+004	1.095831E+004	1.542638E+004	2.946202E+002	0.000000E+000	0.000000E+000	9.018006E-004
Te-127	4.230704E+004	4.806025E+003	6.765646E+003	1.292182E+002	0.000000E+000	0.000000E+000	3.955093E-004
Te-127m	6.952414E+003	7.897480E+002	1.111767E+003	2.123451E+001	0.000000E+000	0.000000E+000	6.499238E-005
Te-129	2.728577E+004	3.100669E+003	4.364786E+003	8.334466E+001	0.000000E+000	0.000000E+000	2.551547E-004
Te-129m	3.214339E+004	3.651277E+003	5.140083E+003	9.817441E+001	0.000000E+000	0.000000E+000	3.004821E-004
Te-131m	6.216191E+004	7.061276E+003	9.940493E+003	1.898594E+002	0.000000E+000	0.000000E+000	5.811070E-004
Te-132	6.170909E+005	7.009781E+004	9.868011E+004	1.884761E+003	0.000000E+000	0.000000E+000	5.768700E-003
Te-133m	3.990917E+004	4.535599E+003	6.384657E+003	1.219055E+002	0.000000E+000	0.000000E+000	3.732296E-004
Te-134	4.589673E+004	5.216875E+003	7.343552E+003	1.401995E+002	0.000000E+000	0.000000E+000	4.292809E-004
I-131E	9.291711E+004	6.972798E+002	1.770313E+003	2.832088E+002	0.000000E+000	0.000000E+000	1.900855E-003
I-131O	1.192643E+004	2.163673E+004	1.442526E+004	2.040002E+001	0.000000E+000	0.000000E+000	9.888280E-005
I-131P	2.239153E+006	2.546558E+005	3.584915E+005	7.396270E+003	0.000000E+000	0.000000E+000	2.389924E-002
I-132E	5.721788E+004	4.294449E+002	1.090274E+003	1.744055E+002	0.000000E+000	0.000000E+000	1.170728E-003
I-132O	7.344553E+003	1.332776E+004	8.885724E+003	1.256343E+001	0.000000E+000	0.000000E+000	6.090282E-005
I-132P	1.378865E+006	1.568466E+005	2.207961E+005	4.554786E+003	0.000000E+000	0.000000E+000	1.471948E-002
I-133E	1.708200E+005	1.281907E+003	3.254602E+003	5.206567E+002	0.000000E+000	0.000000E+000	3.494612E-003
I-133O	2.192578E+004	3.977840E+004	2.652039E+004	3.750400E+001	0.000000E+000	0.000000E+000	1.817907E-004
I-133P	4.116489E+006	4.681715E+005	6.590667E+005	1.359745E+004	0.000000E+000	0.000000E+000	4.393738E-002
I-134E	2.200905E+004	1.652271E+002	4.194553E+002	6.709000E+001	0.000000E+000	0.000000E+000	4.504441E-004
I-134O	2.825308E+003	5.129043E+003	3.419621E+003	4.833321E+000	0.000000E+000	0.000000E+000	2.343353E-005
I-134P	5.303886E+005	6.035085E+004	8.495425E+004	1.752139E+003	0.000000E+000	0.000000E+000	5.663425E-003
I-135E	1.301109E+005	9.764431E+002	2.479048E+003	3.965799E+002	0.000000E+000	0.000000E+000	2.661896E-003
I-135O	1.670070E+004	3.030076E+004	2.020165E+004	2.856687E+001	0.000000E+000	0.000000E+000	1.384733E-004
I-135P	3.135468E+006	3.566158E+005	5.020221E+005	1.035708E+004	0.000000E+000	0.000000E+000	3.346776E-002
Xe-133	5.345672E+007	9.316081E+007	6.211089E+007	8.778682E+004	0.000000E+000	0.000000E+000	3.871840E+001
Xe-135	1.737396E+007	3.027994E+007	2.018786E+007	2.853196E+004	0.000000E+000	0.000000E+000	1.258431E+001
Cs-134	5.749463E+005	6.540562E+004	9.207472E+004	1.932154E+003	0.000000E+000	0.000000E+000	6.312380E-003
Cs-136	1.676534E+005	1.907220E+004	2.684887E+004	5.634129E+002	0.000000E+000	0.000000E+000	1.840682E-003
Cs-137	2.945196E+005	3.350441E+004	4.716581E+004	9.897569E+002	0.000000E+000	0.000000E+000	3.233553E-003
Cs-138	9.216568E+004	1.049343E+004	1.477080E+004	3.097835E+002	0.000000E+000	0.000000E+000	1.012601E-003
Ba-139	7.921512E+004	9.001175E+003	1.267097E+004	2.419601E+002	0.000000E+000	0.000000E+000	7.407158E-004
Ba-140	3.170673E+005	3.601678E+004	5.070260E+004	9.684075E+002	0.000000E+000	0.000000E+000	2.964003E-003
La-140	3.126791E+003	3.551865E+002	5.000131E+002	9.550067E+000	0.000000E+000	0.000000E+000	2.923005E-005
La-141	1.817004E+003	2.064231E+002	2.905885E+002	5.549744E+000	0.000000E+000	0.000000E+000	1.698730E-005
La-142	8.079982E+002	9.180970E+001	1.292411E+002	2.467990E+000	0.000000E+000	0.000000E+000	7.555149E-006
Ce-141	7.377834E+003	8.380733E+002	1.179797E+003	2.253386E+001	0.000000E+000	0.000000E+000	6.896930E-005
Ce-143	6.645553E+003	7.549006E+002	1.062710E+003	2.029733E+001	0.000000E+000	0.000000E+000	6.212448E-005
Ce-144	5.786920E+003	6.573556E+002	9.253921E+002	1.767478E+001	0.000000E+000	0.000000E+000	5.409713E-005
Pr-143	2.744433E+003	3.117497E+002	4.388655E+002	8.382226E+000	0.000000E+000	0.000000E+000	2.565546E-005
Nd-147	1.224657E+003	1.391131E+002	1.958364E+002	3.740428E+000	0.000000E+000	0.000000E+000	1.144832E-005
Np-238	2.461306E+003	2.795904E+002	3.935930E+002	7.517494E+000	0.000000E+000	0.000000E+000	2.300889E-005
Np-239	1.027473E+005	1.167150E+004	1.643054E+004	3.138180E+002	0.000000E+000	0.000000E+000	9.605062E-004
Pu-238	3.068347E+001	3.485437E+000	4.906623E+000	9.371542E-002	0.000000E+000	0.000000E+000	2.868343E-007
Pu-239	2.211806E+000	2.512464E-001	3.536920E-001	6.755440E-003	0.000000E+000	0.000000E+000	2.067634E-008
Pu-240	3.350093E+000	3.805482E-001	5.357166E-001	1.023207E-002	0.000000E+000	0.000000E+000	3.131724E-008
Pu-241	8.986334E+002	1.020788E+002	1.437013E+002	2.744664E+000	0.000000E+000	0.000000E+000	8.400508E-006
Am-241	4.617912E-001	5.245640E-002	7.384547E-002	1.410432E-003	0.000000E+000	0.000000E+000	4.316903E-009
Cm-242	1.404098E+002	1.594962E+001	2.245308E+001	4.288488E-001	0.000000E+000	0.000000E+000	1.312576E-006
Cm-244	2.965014E+001	3.368058E+000	4.741382E+000	9.055935E-002	0.000000E+000	0.000000E+000	2.771746E-007

Time = 10800.000000 Seconds  
CPU ClockTime = 17.470000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	9.06952	45.11897	3.21007	12.27959	11.78259 ending at	10800.0 Sec
LPZ	1.32977	6.78383	0.48495	1.81472		
ContolRoom	0.17170	11.67347	0.78853	0.96023		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.000960E+002	6.378435E+000	8.979121E+000	3.421555E-001	0.000000E+000	0.000000E+000	1.113997E-006
Co-60	1.199439E+002	7.643201E+000	1.075957E+001	4.100008E-001	0.000000E+000	0.000000E+000	1.334889E-006
Br-82E	5.259509E+002	9.536155E+000	7.077321E+000	1.726712E+000	0.000000E+000	0.000000E+000	1.297980E-005
Br-82O	8.027505E+001	1.456623E+002	9.710867E+001	1.384550E-001	0.000000E+000	0.000000E+000	7.074967E-007
Br-82P	1.220442E+004	7.786401E+002	1.096114E+003	4.491519E+001	0.000000E+000	0.000000E+000	1.532183E-004
Br-83E	4.198380E+003	7.613412E+001	5.650316E+001	1.378389E+001	0.000000E+000	0.000000E+000	1.036259E-004
Br-83O	6.408172E+002	1.163106E+003	7.754134E+002	1.105319E+000	0.000000E+000	0.000000E+000	5.648533E-006
Br-83P	9.742159E+004	6.216805E+003	8.751415E+003	3.585479E+002	0.000000E+000	0.000000E+000	1.223242E-003
Br-84E	3.358552E+002	6.094147E+000	4.522701E+000	1.102811E+000	0.000000E+000	0.000000E+000	8.294307E-006
Br-84O	5.127067E+001	9.315418E+001	6.210531E+001	8.845436E-002	0.000000E+000	0.000000E+000	4.521564E-007
Br-84P	7.793484E+003	4.977293E+002	7.006059E+002	2.868688E+001	0.000000E+000	0.000000E+000	9.791043E-005
Kr-85	3.882572E+005	6.767486E+005	4.511679E+005	6.456800E+002	0.000000E+000	0.000000E+000	3.021519E-001
Kr-85m	5.701549E+006	9.939554E+006	6.626430E+006	9.482125E+003	0.000000E+000	0.000000E+000	4.437447E+000
Kr-87	3.166811E+006	5.522856E+006	3.681978E+006	5.267116E+003	0.000000E+000	0.000000E+000	2.465187E+000
Kr-88	1.067200E+007	1.860621E+007	1.240429E+007	1.774872E+004	0.000000E+000	0.000000E+000	8.306268E+000
Rb-86	4.170996E+003	2.661781E+002	3.747071E+002	1.560234E+001	0.000000E+000	0.000000E+000	5.373491E-005
Sr-89	1.463071E+005	9.323153E+003	1.312449E+004	5.001176E+002	0.000000E+000	0.000000E+000	1.628294E-003
Sr-90	1.652273E+004	1.052880E+003	1.482171E+003	5.647916E+001	0.000000E+000	0.000000E+000	1.838860E-004
Sr-91	1.514606E+005	9.652101E+003	1.358749E+004	5.177387E+002	0.000000E+000	0.000000E+000	1.685715E-003
Sr-92	9.087478E+004	5.791994E+003	8.153425E+003	3.106455E+002	0.000000E+000	0.000000E+000	1.011512E-003
Y-90	1.649695E+002	1.051246E+001	1.479870E+001	5.639112E-001	0.000000E+000	0.000000E+000	1.836002E-006
Y-91	1.863959E+003	1.187774E+002	1.672066E+002	6.371520E+000	0.000000E+000	0.000000E+000	2.074453E-005
Y-92	1.094396E+003	6.974912E+001	9.818667E+001	3.741043E+000	0.000000E+000	0.000000E+000	1.218114E-005
Y-93	1.833910E+003	1.168687E+002	1.645190E+002	6.268860E+000	0.000000E+000	0.000000E+000	2.041085E-005
Zr-95	2.440217E+003	1.554983E+002	2.188998E+002	8.341325E+000	0.000000E+000	0.000000E+000	2.715787E-005
Zr-97	2.122321E+003	1.352453E+002	1.903885E+002	7.254708E+000	0.000000E+000	0.000000E+000	2.362043E-005
Nb-95	2.445290E+003	1.558217E+002	2.193550E+002	8.358667E+000	0.000000E+000	0.000000E+000	2.721434E-005
Mo-99	3.262069E+004	2.078710E+003	2.926262E+003	1.115065E+002	0.000000E+000	0.000000E+000	3.630469E-004
Tc-99m	2.078372E+004	1.324524E+003	1.864558E+003	7.104550E+001	0.000000E+000	0.000000E+000	2.313223E-004
Ru-103	2.955428E+004	1.883292E+003	2.651168E+003	1.010245E+002	0.000000E+000	0.000000E+000	3.289180E-004
Ru-105	1.348717E+004	8.595505E+002	1.210003E+003	4.610379E+001	0.000000E+000	0.000000E+000	1.501152E-004

Ru-106	1.289644E+004	8.218015E+002	1.156875E+003	4.408353E+001	0.000000E+000	0.000000E+000	1.435281E-004
Rh-105	1.906725E+004	1.215044E+003	1.710452E+003	6.517721E+001	0.000000E+000	0.000000E+000	2.122071E-004
Sb-125	7.281539E+003	4.640024E+002	6.531906E+002	2.489028E+001	0.000000E+000	0.000000E+000	8.103829E-005
Sb-127	2.862541E+005	1.824111E+004	2.567857E+004	9.784951E+002	0.000000E+000	0.000000E+000	3.185815E-003
Sb-129	7.567355E+004	4.822755E+003	6.789068E+003	2.586783E+002	0.000000E+000	0.000000E+000	8.422644E-004
Te-127	3.375113E+004	2.150853E+003	3.027807E+003	1.153717E+002	0.000000E+000	0.000000E+000	3.756409E-004
Te-127m	5.628507E+003	3.586661E+002	5.049054E+002	1.923976E+001	0.000000E+000	0.000000E+000	6.264124E-005
Te-129	1.960266E+004	1.249732E+003	1.759214E+003	6.701268E+001	0.000000E+000	0.000000E+000	2.182345E-004
Te-129m	2.601942E+004	1.658040E+003	2.334074E+003	8.894144E+001	0.000000E+000	0.000000E+000	2.895775E-004
Te-131m	5.011257E+004	3.193384E+003	4.495419E+003	1.712989E+002	0.000000E+000	0.000000E+000	5.577234E-004
Te-132	4.987239E+005	3.178047E+004	4.473833E+004	1.704776E+003	0.000000E+000	0.000000E+000	5.550465E-003
Te-133m	2.780662E+004	1.772975E+003	2.495742E+003	9.506031E+001	0.000000E+000	0.000000E+000	3.095941E-004
Te-134	3.048272E+004	1.943973E+003	2.736404E+003	1.042123E+002	0.000000E+000	0.000000E+000	3.394336E-004
I-131E	7.806935E+004	1.415483E+003	1.050510E+003	2.563034E+002	0.000000E+000	0.000000E+000	1.926636E-003
I-131O	1.191557E+004	2.162094E+004	1.441402E+004	2.055141E+001	0.000000E+000	0.000000E+000	1.050160E-004
I-131P	1.811559E+006	1.155757E+005	1.626995E+005	6.666957E+003	0.000000E+000	0.000000E+000	2.274271E-002
I-132E	4.527125E+004	8.209639E+002	6.092805E+002	1.486324E+002	0.000000E+000	0.000000E+000	1.117410E-003
I-132O	6.909966E+003	1.254202E+004	8.361455E+003	1.191876E+001	0.000000E+000	0.000000E+000	6.090888E-005
I-132P	1.050500E+006	6.703681E+004	9.436782E+004	3.866241E+003	0.000000E+000	0.000000E+000	1.319036E-002
I-133E	1.426727E+005	2.586858E+003	1.919854E+003	4.683995E+002	0.000000E+000	0.000000E+000	3.521008E-003
I-133O	2.177596E+004	3.951390E+004	2.634274E+004	3.755837E+001	0.000000E+000	0.000000E+000	1.919217E-004
I-133P	3.310648E+006	2.112211E+005	2.973419E+005	1.218400E+004	0.000000E+000	0.000000E+000	4.156328E-002
I-134E	1.579873E+004	2.865823E+002	2.126859E+002	5.187300E+001	0.000000E+000	0.000000E+000	3.900567E-004
I-134O	2.411606E+003	4.379375E+003	2.919660E+003	4.160137E+000	0.000000E+000	0.000000E+000	2.126255E-005
I-134P	3.666052E+005	2.340361E+004	3.294419E+004	1.349336E+003	0.000000E+000	0.000000E+000	4.604411E-003
I-135E	1.071141E+005	1.942214E+003	1.441425E+003	3.516628E+002	0.000000E+000	0.000000E+000	2.643565E-003
I-135O	1.634887E+004	2.966825E+004	1.977898E+004	2.819837E+001	0.000000E+000	0.000000E+000	1.440953E-004
I-135P	2.485531E+006	1.585873E+005	2.232466E+005	9.147459E+003	0.000000E+000	0.000000E+000	3.120564E-002
Xe-133	5.338762E+007	9.305736E+007	6.203855E+007	8.878486E+004	0.000000E+000	0.000000E+000	4.154775E+001
Xe-135	1.710801E+007	2.982222E+007	1.988162E+007	2.845147E+004	0.000000E+000	0.000000E+000	1.331442E+001
Cs-134	4.654837E+005	2.970547E+004	4.181732E+004	1.741223E+003	0.000000E+000	0.000000E+000	5.996819E-003
Cs-136	1.356758E+005	8.658347E+003	1.218862E+004	5.075190E+002	0.000000E+000	0.000000E+000	1.747910E-003
Cs-137	2.384485E+005	1.521691E+004	2.142132E+004	8.919581E+002	0.000000E+000	0.000000E+000	3.071927E-003
Cs-138	5.763214E+004	3.681627E+003	5.182279E+003	2.156205E+002	0.000000E+000	0.000000E+000	7.429941E-004
Ba-139	5.807124E+004	3.701931E+003	5.211145E+003	1.985167E+002	0.000000E+000	0.000000E+000	6.464658E-004
Ba-140	2.565874E+005	1.635058E+004	2.301721E+004	8.770855E+002	0.000000E+000	0.000000E+000	2.855636E-003
La-140	2.522809E+003	1.607635E+002	2.263115E+002	8.623667E+000	0.000000E+000	0.000000E+000	2.807731E-005
La-141	1.419708E+003	9.048092E+001	1.273712E+002	4.853065E+000	0.000000E+000	0.000000E+000	1.580186E-005
La-142	5.978545E+002	3.811075E+001	5.364801E+001	2.043757E+000	0.000000E+000	0.000000E+000	6.655330E-006
Ce-141	5.972172E+003	3.805657E+002	5.357341E+002	2.041451E+001	0.000000E+000	0.000000E+000	6.646601E-005
Ce-143	5.357891E+003	3.414272E+002	4.806370E+002	1.831478E+001	0.000000E+000	0.000000E+000	5.963015E-005
Ce-144	4.685104E+003	2.985495E+002	4.202774E+002	1.601496E+001	0.000000E+000	0.000000E+000	5.214184E-005
Pr-143	2.220999E+003	1.415292E+002	1.992351E+002	7.591979E+000	0.000000E+000	0.000000E+000	2.471815E-005
Nd-147	9.909839E+002	6.314872E+001	8.889640E+001	3.387453E+000	0.000000E+000	0.000000E+000	1.102895E-005
Np-238	1.987290E+003	1.266377E+002	1.782717E+002	6.793110E+000	0.000000E+000	0.000000E+000	2.211727E-005
Np-239	8.298238E+004	5.287948E+003	7.444002E+003	2.836588E+002	0.000000E+000	0.000000E+000	9.235404E-004
Pu-238	2.484191E+001	1.583004E+000	2.228444E+000	8.491638E-002	0.000000E+000	0.000000E+000	2.764726E-007
Pu-239	1.790720E+000	1.141103E-001	1.606365E-001	6.121166E-003	0.000000E+000	0.000000E+000	1.992942E-008
Pu-240	2.712298E+000	1.728361E-001	2.433067E-001	9.271370E-003	0.000000E+000	0.000000E+000	3.018592E-008
Pu-241	7.275497E+002	4.636174E+001	6.526486E+001	2.486962E+000	0.000000E+000	0.000000E+000	8.097105E-006
Am-241	3.738748E+001	2.382447E-002	3.353844E-002	1.278005E-003	0.000000E+000	0.000000E+000	4.160957E-009
Cm-242	1.136744E+002	7.243690E+000	1.019717E+001	3.885700E-001	0.000000E+000	0.000000E+000	1.265115E-006
Cm-244	2.400529E+001	1.529692E+000	2.153395E+000	8.205658E-002	0.000000E+000	0.000000E+000	2.671616E-007

Time = 18000.000000 Seconds  
CPU ClockTime = 28.240000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	16.87724	67.28526	4.66384	21.54108	12.84454 ending at 12738.0 Sec		
LPZ	2.11054	9.00046	0.63033	2.74087			
ContolRoom	0.43382	21.28171	1.39202	1.82584			
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.210231E+001	2.992179E+000	2.153595E+000	1.006126E-001	0.000000E+000	0.000000E+000	4.645493E-007
Co-60	1.451345E+001	3.588308E+000	2.582653E+000	1.206577E-001	0.000000E+000	0.000000E+000	5.571014E-007
Br-82E	8.930184E+001	9.581576E+000	6.387721E+000	5.209109E-001	0.000000E+000	0.000000E+000	9.403038E-006
Br-82O	7.703602E+001	1.400133E+002	9.334225E+001	1.379675E-001	0.000000E+000	0.000000E+000	9.469046E-007
Br-82P	1.419937E+003	3.514994E+002	2.529887E+002	1.242525E+001	0.000000E+000	0.000000E+000	5.826701E-005
Br-83E	4.160948E+002	4.467153E+001	2.978126E+001	2.427236E+000	0.000000E+000	0.000000E+000	4.381918E-005
Br-83O	3.589573E+002	6.528769E+002	4.352548E+002	6.429972E-001	0.000000E+000	0.000000E+000	4.413148E-006
Br-83P	6.616106E+003	1.638861E+003	1.179562E+003	5.789709E+001	0.000000E+000	0.000000E+000	2.715324E-004
Br-84E	4.336693E+000	4.666482E-001	3.111101E-001	2.530124E-002	0.000000E+000	0.000000E+000	4.569554E-007
Br-84O	3.741740E+000	6.824139E+000	4.549591E+000	6.707437E-003	0.000000E+000	0.000000E+000	4.603978E-008
Br-84P	6.895646E+001	1.712341E+001	1.232471E+001	6.035296E-001	0.000000E+000	0.000000E+000	2.831667E-006
Kr-85	3.875074E+005	6.765230E+005	4.510153E+005	6.817610E+002	0.000000E+000	0.000000E+000	4.447750E-001
Kr-85m	4.176104E+006	7.293770E+006	4.862534E+006	7.348018E+003	0.000000E+000	0.000000E+000	4.793865E+000
Kr-87	1.061026E+006	1.855057E+006	1.236723E+006	1.867425E+003	0.000000E+000	0.000000E+000	1.218364E+000
Kr-88	6.537618E+006	1.142098E+007	7.614035E+006	1.150391E+004	0.000000E+000	0.000000E+000	7.505251E+000
Rb-86	5.031533E+002	1.245821E+002	8.966690E+001	4.453599E+000	0.000000E+000	0.000000E+000	2.095422E-005
Sr-89	1.768376E+004	4.372140E+003	3.146810E+003	1.470140E+002	0.000000E+000	0.000000E+000	6.787943E-004
Sr-90	1.999332E+003	4.943150E+002	3.557789E+002	1.662146E+001	0.000000E+000	0.000000E+000	7.674470E-005
Sr-91	1.583910E+004	3.916756E+003	2.819055E+003	1.316800E+002	0.000000E+000	0.000000E+000	6.080117E-004
Sr-92	6.593053E+003	1.631080E+003	1.173961E+003	5.481361E+001	0.000000E+000	0.000000E+000	2.531119E-004
Y-90	1.953501E+001	4.829965E+000	3.476326E+000	1.624047E-001	0.000000E+000	0.000000E+000	7.498594E-007
Y-91	2.253270E+002	5.570993E+001	4.009674E+001	1.873257E+000	0.000000E+000	0.000000E+000	8.649218E-006
Y-92	8.951724E+001	2.214278E+001	1.593713E+001	7.442253E-001	0.000000E+000	0.000000E+000	3.436513E-006
Y-93	1.937127E+002	4.790146E+001	3.447670E+001	1.610449E+000	0.000000E+000	0.000000E+000	7.435980E-006
Zr-95	2.950137E+002	7.293930E+001	5.249742E+001	2.452598E+000	0.000000E+000	0.000000E+000	1.132415E-005
Zr-97	2.364720E+002	5.847121E+001	4.208417E+001	1.965924E+000	0.000000E+000	0.000000E+000	9.077228E-006
Nb-95	2.954056E+002	7.303625E+001	5.256720E+001	2.455856E+000	0.000000E+000	0.000000E+000	1.133920E-005
Mo-99	3.865170E+003	9.56495E+002	6.878205E+002	3.213317E+001	0.000000E+000	0.000000E+000	1.483661E-004

Tc-99m	1.996882E+003	4.938476E+002	3.554432E+002	1.660139E+001	0.000000E+000	0.000000E+000	7.665563E-005
Ru-103	3.570977E+003	8.828904E+002	6.354526E+002	2.968735E+001	0.000000E+000	0.000000E+000	1.370726E-004
Ru-105	1.194338E+003	2.954003E+002	2.126124E+002	9.929383E+000	0.000000E+000	0.000000E+000	4.584890E-005
Ru-106	1.560300E+003	3.857688E+002	2.776537E+002	1.297156E+001	0.000000E+000	0.000000E+000	5.989238E-005
Rh-105	2.218637E+003	5.485622E+002	3.948230E+002	1.844471E+001	0.000000E+000	0.000000E+000	8.516372E-005
Sb-125	8.810567E+002	2.178326E+002	1.567831E+002	7.324670E+000	0.000000E+000	0.000000E+000	3.381951E-005
Sb-127	3.412121E+004	8.436286E+003	6.071944E+003	2.836673E+002	0.000000E+000	0.000000E+000	1.309754E-003
Sb-129	6.682175E+003	1.652734E+003	1.189544E+003	5.555370E+001	0.000000E+000	0.000000E+000	2.565192E-004
Te-127	3.524074E+003	8.714484E+002	6.272182E+002	2.929775E+001	0.000000E+000	0.000000E+000	1.352778E-004
Te-127m	6.807201E+002	1.683014E+002	1.211335E+002	5.659172E+000	0.000000E+000	0.000000E+000	2.612957E-005
Te-129	7.179651E+002	1.777676E+002	1.279480E+002	5.969374E+000	0.000000E+000	0.000000E+000	2.756848E-005
Te-129m	3.143088E+003	7.770990E+002	5.593102E+002	2.613009E+001	0.000000E+000	0.000000E+000	1.206480E-004
Te-131m	5.809920E+003	1.436520E+003	1.033923E+003	4.830098E+001	0.000000E+000	0.000000E+000	2.230175E-004
Te-132	5.928854E+004	1.465882E+004	1.055056E+004	4.928963E+002	0.000000E+000	0.000000E+000	2.275812E-003
Te-133m	7.497271E+002	1.857010E+002	1.336584E+002	6.233605E+000	0.000000E+000	0.000000E+000	2.879056E-005
Te-134	5.090654E+002	1.261646E+002	9.080742E+001	4.232784E+000	0.000000E+000	0.000000E+000	1.955145E-005
I-131E	1.368766E+004	1.468555E+003	9.790368E+002	7.984198E+001	0.000000E+000	0.000000E+000	1.441230E-003
I-131O	1.180760E+004	2.145945E+004	1.430630E+004	2.114655E+001	0.000000E+000	0.000000E+000	1.4511338E-004
I-131P	2.176395E+005	5.387366E+004	3.877510E+004	1.904464E+003	0.000000E+000	0.000000E+000	8.930744E-003
I-132E	4.352411E+003	4.672866E+002	3.115271E+002	2.538929E+001	0.000000E+000	0.000000E+000	4.583588E-004
I-132O	3.754753E+003	6.829480E+003	4.553025E+003	6.725931E+000	0.000000E+000	0.000000E+000	4.616283E-005
I-132P	6.920544E+004	1.714336E+004	1.233885E+004	6.056135E+002	0.000000E+000	0.000000E+000	2.840293E-003
I-133E	2.357027E+004	2.529033E+003	1.686024E+003	1.374892E+002	0.000000E+000	0.000000E+000	2.481851E-003
I-133O	2.033288E+004	3.695646E+004	2.463766E+004	3.641548E+001	0.000000E+000	0.000000E+000	2.499287E-004
I-133P	3.747773E+005	9.277764E+004	6.677594E+004	3.279520E+003	0.000000E+000	0.000000E+000	1.537908E-002
I-134E	5.738925E+002	6.168192E+001	4.112218E+001	3.347970E+000	0.000000E+000	0.000000E+000	6.045362E-005
I-134O	4.951227E+002	9.017481E+002	6.011786E+002	8.872275E-001	0.000000E+000	0.000000E+000	6.089656E-006
I-134P	9.125229E+003	2.263149E+003	1.628904E+003	7.986053E+001	0.000000E+000	0.000000E+000	3.746150E-004
I-135E	1.531715E+004	1.643759E+003	1.095842E+003	8.934829E+001	0.000000E+000	0.000000E+000	1.612895E-003
I-135O	1.321347E+004	2.402106E+004	1.601409E+004	2.366608E+001	0.000000E+000	0.000000E+000	1.624273E-004
I-135P	2.435494E+005	6.030221E+004	4.340207E+004	2.131223E+003	0.000000E+000	0.000000E+000	9.994513E-003
Xe-133	5.270148E+007	9.200929E+007	6.133954E+007	9.272067E+004	0.000000E+000	0.000000E+000	6.049021E+001
Xe-135	1.466243E+007	2.560332E+007	1.706892E+007	2.579771E+004	0.000000E+000	0.000000E+000	1.683034E+001
Cs-134	5.632184E+004	1.394539E+004	1.003707E+004	4.985257E+002	0.000000E+000	0.000000E+000	2.345567E-003
Cs-136	1.634563E+004	4.047228E+003	2.912958E+003	1.446813E+002	0.000000E+000	0.000000E+000	6.807272E-004
Cs-137	2.885345E+004	7.144167E+003	5.141952E+003	2.553927E+002	0.000000E+000	0.000000E+000	1.201624E-003
Cs-138	5.267680E+002	1.308388E+002	9.417222E+001	4.663561E+000	0.000000E+000	0.000000E+000	2.195353E-005
Ba-139	2.603105E+003	6.443687E+002	4.637828E+002	2.164263E+001	0.000000E+000	0.000000E+000	9.994853E-005
Ba-140	3.090817E+004	7.641781E+003	5.500106E+003	2.569554E+002	0.000000E+000	0.000000E+000	1.186417E-003
La-140	2.949444E+002	7.292513E+001	5.248724E+001	2.452029E+000	0.000000E+000	0.000000E+000	1.132160E-005
La-141	1.204010E+002	2.978082E+001	2.143455E+001	1.000983E+000	0.000000E+000	0.000000E+000	4.622077E-006
La-142	2.940720E+001	7.278594E+000	5.238745E+000	2.444944E-001	0.000000E+000	0.000000E+000	1.129086E-006
Ce-141	7.213831E+002	1.783552E+002	1.283696E+002	5.997224E+000	0.000000E+000	0.000000E+000	2.769043E-005
Ce-143	6.217579E+002	1.537313E+002	1.106468E+002	5.169005E+000	0.000000E+000	0.000000E+000	2.386657E-005
Ce-144	5.668089E+002	1.401379E+002	1.008631E+002	4.712170E+000	0.000000E+000	0.000000E+000	2.175706E-005
Pr-143	2.676118E+002	6.616471E+001	4.762148E+001	2.224793E+000	0.000000E+000	0.000000E+000	1.027234E-005
Nd-147	1.192855E+002	2.949234E+001	2.122685E+001	9.916808E-001	0.000000E+000	0.000000E+000	4.578800E-006
Np-238	2.340007E+002	5.785627E+001	4.164156E+001	1.945370E+000	0.000000E+000	0.000000E+000	8.982226E-006
Np-239	9.798042E+003	2.422541E+003	1.743603E+003	8.145625E+001	0.000000E+000	0.000000E+000	3.761022E-004
Pu-238	3.060005E+000	7.432050E-001	5.349153E-001	2.499044E-002	0.000000E+000	0.000000E+000	1.153860E-007
Pu-239	2.166871E-001	5.357375E-002	3.855924E-002	1.801430E-003	0.000000E+000	0.000000E+000	8.317574E-009
Pu-240	3.282033E-001	8.114502E-002	5.840342E-002	2.728520E-003	0.000000E+000	0.000000E+000	1.259814E-008
Pu-241	8.803664E+001	2.176619E+001	1.566602E+001	7.318932E-001	0.000000E+000	0.000000E+000	3.379302E-006
Am-241	4.524093E-002	1.118537E-002	8.050575E-003	3.761108E-004	0.000000E+000	0.000000E+000	1.736581E-009
Cm-242	1.375036E+001	3.399643E+000	2.446863E+000	1.143137E-001	0.000000E+000	0.000000E+000	5.278101E-007
Cm-244	2.904749E+000	7.181705E-001	5.168970E-001	2.414865E-002	0.000000E+000	0.000000E+000	1.114993E-007

Time = 25200.000000 Seconds  
CPU ClockTime = 39.220000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	22.10693	73.18887	5.03652	27.14344	12.84454 ending at	12738.0 Sec
LPZ	2.63351	9.59082	0.66759	3.30111		
ContolRoom	0.65150	24.69780	1.59256	2.24406		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.362423E+000	9.898658E-001	7.124473E-001	2.623872E-002	0.000000E+000	0.000000E+000	1.333910E-007
Co-60	4.035490E+000	1.188008E+000	8.550585E-001	3.149099E-002	0.000000E+000	0.000000E+000	1.600922E-007
Br-82E	1.516267E+001	9.209973E+000	6.139985E+000	1.346585E-001	0.000000E+000	0.000000E+000	4.755253E-006
Br-82O	7.392769E+001	1.345831E+002	8.972215E+001	1.334485E-001	0.000000E+000	0.000000E+000	1.019035E-006
Br-82P	3.796243E+002	1.118995E+002	8.053872E+001	3.082888E+000	0.000000E+000	0.000000E+000	1.581241E-005
Br-83E	4.123849E+001	2.507508E+001	1.671685E+001	3.662558E-001	0.000000E+000	0.000000E+000	1.293498E-005
Br-83O	2.010719E+002	3.664736E+002	2.443177E+002	3.630823E-001	0.000000E+000	0.000000E+000	2.772529E-006
Br-83P	1.032482E+003	3.046760E+002	2.192890E+002	8.385144E+000	0.000000E+000	0.000000E+000	4.301263E-005
Br-84E	5.599706E-002	3.418490E-002	2.279076E-002	4.974352E-004	0.000000E+000	0.000000E+000	1.757418E-008
Br-84O	2.730727E-001	4.999109E-001	3.332860E-001	4.937310E-004	0.000000E+000	0.000000E+000	3.770028E-009
Br-84P	1.402010E+000	4.154598E-001	2.990304E-001	1.138859E-002	0.000000E+000	0.000000E+000	5.844224E-008
Kr-85	3.867591E+005	6.762962E+005	4.508641E+005	6.882656E+002	0.000000E+000	0.000000E+000	5.072545E-001
Kr-85m	3.058791E+006	5.352250E+006	3.568182E+006	5.444369E+003	0.000000E+000	0.000000E+000	4.012513E+000
Kr-87	3.554921E+005	6.230887E+005	4.153988E+005	6.330462E+002	0.000000E+000	0.000000E+000	4.665541E-001
Kr-88	4.004917E+006	7.010477E+006	4.673683E+006	7.129164E+003	0.000000E+000	0.000000E+000	5.254205E+000
Rb-86	1.394742E+002	4.112014E+001	2.959586E+001	1.142863E+000	0.000000E+000	0.000000E+000	5.873185E-006
Sr-89	4.911527E+003	1.445908E+003	1.040680E+003	3.832717E+001	0.000000E+000	0.000000E+000	1.948456E-004
Sr-90	5.559312E+002	1.636606E+002	1.177933E+002	4.338216E+000	0.000000E+000	0.000000E+000	2.205439E-005
Sr-91	3.806225E+003	1.120851E+003	8.067241E+002	2.970238E+001	0.000000E+000	0.000000E+000	1.510036E-004
Sr-92	1.099165E+003	3.239240E+002	2.331425E+002	8.577804E+000	0.000000E+000	0.000000E+000	4.361168E-005
Y-90	5.315655E+000	1.564946E+000	1.126356E+000	4.148087E-002	0.000000E+000	0.000000E+000	2.108791E-007
Y-91	6.259259E+001	1.842668E+001	1.326244E+001	4.884421E-001	0.000000E+000	0.000000E+000	2.483116E-006
Y-92	1.682565E+001	4.957298E+000	3.567984E+000	1.313045E-001	0.000000E+000	0.000000E+000	6.675693E-007
Y-93	4.701876E+001	1.384573E+001	9.965354E+000	3.669167E-001	0.000000E+000	0.000000E+000	1.865360E-006
Zr-95	8.195753E+001	2.412753E+001	1.736558E+001	6.395567E-001	0.000000E+000	0.000000E+000	3.251344E-006

Zr-97	6.054542E+001	1.782700E+001	1.283084E+001	4.724710E-001	0.000000E+000	0.000000E+000	2.401961E-006
Nb-95	8.200491E+001	2.414151E+001	1.737564E+001	6.399265E-001	0.000000E+000	0.000000E+000	3.253224E-006
Mo-99	1.052391E+003	3.098269E+002	2.229952E+002	8.212364E+000	0.000000E+000	0.000000E+000	4.174974E-005
Tc-99m	4.408741E+002	1.298506E+002	9.345901E+001	3.440449E+000	0.000000E+000	0.000000E+000	1.749115E-005
Ru-103	9.914865E+002	2.918847E+002	2.100815E+002	7.737079E+000	0.000000E+000	0.000000E+000	3.933335E-005
Ru-105	2.430338E+002	7.159274E+001	5.152839E+001	1.896579E+000	0.000000E+000	0.000000E+000	9.642309E-006
Ru-106	4.337897E+002	1.277034E+002	9.191344E+001	3.385084E+000	0.000000E+000	0.000000E+000	1.720891E-005
Rh-105	5.932223E+002	1.746529E+002	1.257049E+002	4.629237E+000	0.000000E+000	0.000000E+000	2.353404E-005
Sb-125	2.449726E+002	7.211751E+001	5.190595E+001	1.911647E+000	0.000000E+000	0.000000E+000	9.718325E-006
Sb-127	9.346096E+003	2.751483E+003	1.980356E+003	7.293249E+001	0.000000E+000	0.000000E+000	3.707713E-004
Sb-129	1.355890E+003	3.994196E+002	2.874796E+002	1.058106E+001	0.000000E+000	0.000000E+000	5.379468E-005
Te-127	8.455408E+002	2.489944E+002	1.792118E+002	6.598290E+000	0.000000E+000	0.000000E+000	3.354498E-005
Te-127m	1.891808E+002	5.569300E+001	4.008455E+001	1.476275E+000	0.000000E+000	0.000000E+000	7.505006E-006
Te-129	6.042610E+001	1.783266E+001	1.283503E+001	4.715949E-001	0.000000E+000	0.000000E+000	2.398022E-006
Te-129m	8.724659E+002	2.568462E+002	1.848628E+002	6.808300E+000	0.000000E+000	0.000000E+000	3.461168E-005
Te-131m	1.547842E+003	4.557095E+002	3.279930E+002	1.207866E+001	0.000000E+000	0.000000E+000	6.140534E-005
Te-132	1.619624E+004	4.768187E+003	3.431861E+003	1.263878E+002	0.000000E+000	0.000000E+000	6.425256E-004
Te-133m	4.645059E+001	1.371692E+001	9.872762E+000	3.625348E-001	0.000000E+000	0.000000E+000	1.843569E-006
Te-134	1.953559E+001	5.774574E+000	4.156271E+000	1.524778E-001	0.000000E+000	0.000000E+000	7.754549E-007
I-131E	2.399816E+003	1.457584E+003	9.717225E+002	2.131251E+001	0.000000E+000	0.000000E+000	7.526136E-004
I-131O	1.170061E+004	2.129912E+004	1.419942E+004	2.112060E+001	0.000000E+000	0.000000E+000	1.612805E-004
I-131P	6.008364E+004	1.770931E+004	1.274613E+004	4.879312E+002	0.000000E+000	0.000000E+000	2.502627E-003
I-132E	4.184440E+002	2.544501E+002	1.696349E+002	3.716383E+000	0.000000E+000	0.000000E+000	1.312515E-004
I-132O	2.040266E+003	3.718835E+003	2.479244E+003	3.684249E+000	0.000000E+000	0.000000E+000	2.813324E-005
I-132P	1.047653E+004	3.091719E+003	2.225205E+003	8.508374E+001	0.000000E+000	0.000000E+000	4.364501E-004
I-133E	3.893931E+003	2.365343E+003	1.576897E+003	3.458180E+001	0.000000E+000	0.000000E+000	1.221208E-003
I-133O	1.898544E+004	3.456448E+004	2.304301E+004	3.427162E+001	0.000000E+000	0.000000E+000	2.617037E-004
I-133P	9.749148E+004	2.873858E+004	2.068436E+004	7.917202E+002	0.000000E+000	0.000000E+000	4.060825E-003
I-134E	2.084678E+001	1.270078E+001	8.467369E+000	1.851675E-001	0.000000E+000	0.000000E+000	6.540689E-006
I-134O	1.016528E+002	1.856768E+002	1.237872E+002	1.836741E-001	0.000000E+000	0.000000E+000	1.402525E-006
I-134P	5.219415E+002	1.543387E+002	1.110854E+002	4.239304E+000	0.000000E+000	0.000000E+000	2.175026E-005
I-135E	2.190327E+003	1.330875E+003	8.872529E+002	1.945246E+001	0.000000E+000	0.000000E+000	6.869541E-004
I-135O	1.067938E+004	1.944874E+004	1.296587E+004	1.927966E+001	0.000000E+000	0.000000E+000	1.472223E-004
I-135P	5.483879E+004	1.617021E+004	1.163839E+004	4.453478E+002	0.000000E+000	0.000000E+000	2.284305E-003
Xe-133	5.202416E+007	9.097285E+007	6.064858E+007	9.258135E+004	0.000000E+000	0.000000E+000	6.823282E+001
Xe-135	1.256645E+007	2.198122E+007	1.465418E+007	2.236498E+004	0.000000E+000	0.000000E+000	1.648306E+001
Cs-134	1.565965E+004	4.616791E+003	3.322895E+003	1.283165E+002	0.000000E+000	0.000000E+000	6.594193E-004
Cs-136	4.525160E+003	1.334123E+003	9.602235E+002	3.707956E+001	0.000000E+000	0.000000E+000	1.905522E-004
Cs-137	8.022950E+003	2.365332E+003	1.702427E+003	6.574073E+001	0.000000E+000	0.000000E+000	3.378420E-004
Cs-138	1.106387E+001	3.279252E+000	2.360266E+000	9.068229E-002	0.000000E+000	0.000000E+000	4.662498E-007
Ba-139	2.681360E+002	7.909808E+001	5.693065E+001	2.092620E+000	0.000000E+000	0.000000E+000	1.064039E-005
Ba-140	8.555479E+003	2.518672E+003	1.812792E+003	6.676282E+001	0.000000E+000	0.000000E+000	3.394055E-004
La-140	7.923714E+001	2.332828E+001	1.679033E+001	6.183303E-001	0.000000E+000	0.000000E+000	3.143455E-006
La-141	2.346359E+001	6.912503E+000	4.975229E+000	1.831052E-001	0.000000E+000	0.000000E+000	9.309243E-007
La-142	3.323871E+000	9.803293E-001	7.055890E-001	2.594031E-002	0.000000E+000	0.000000E+000	1.318969E-007
Ce-141	2.002316E+002	5.894642E+001	4.242617E+001	1.562510E+000	0.000000E+000	0.000000E+000	7.943407E-006
Ce-143	1.657989E+002	4.881376E+001	3.513329E+001	1.293820E+000	0.000000E+000	0.000000E+000	6.577503E-006
Ce-144	1.575749E+002	4.638851E+001	3.338773E+001	1.229638E+000	0.000000E+000	0.000000E+000	6.251166E-006
Pr-143	7.409607E+001	2.181334E+001	1.569996E+001	5.782099E-001	0.000000E+000	0.000000E+000	2.939475E-006
Nd-147	3.299448E+001	9.713354E+000	6.991102E+000	2.574730E-001	0.000000E+000	0.000000E+000	1.308929E-006
Np-238	6.331490E+001	1.864033E+001	1.341622E+001	4.940801E-001	0.000000E+000	0.000000E+000	2.511791E-006
Np-239	2.658433E+003	7.826558E+002	5.633098E+002	2.074517E+001	0.000000E+000	0.000000E+000	1.054637E-004
Pu-238	8.358483E-001	2.460654E-001	1.771035E-001	6.522553E-003	0.000000E+000	0.000000E+000	3.315900E-008
Pu-239	6.025203E-002	1.773760E-002	1.276648E-002	4.701775E-004	0.000000E+000	0.000000E+000	2.390263E-009
Pu-240	9.126021E-002	2.686610E-002	1.933664E-002	7.121502E-004	0.000000E+000	0.000000E+000	3.620391E-009
Pu-241	2.447920E+001	7.206434E+000	5.186768E+000	1.910237E-001	0.000000E+000	0.000000E+000	9.711161E-007
Am-241	1.257969E-002	3.703336E-003	2.665444E-003	9.816577E-005	0.000000E+000	0.000000E+000	4.990498E-010
Cm-242	3.822070E+000	1.125180E+000	8.098387E-001	2.982557E-002	0.000000E+000	0.000000E+000	1.516256E-007
Cm-244	8.076875E-001	2.377752E-001	1.711366E-001	6.302800E-003	0.000000E+000	0.000000E+000	3.204183E-008

Time = 28800.000000 Seconds  
CPU ClockTime = 44.660000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	24.07432	74.21886	5.10049	29.17480	12.84454 ending at	12738.0 Sec
LPZ	2.83025	9.69382	0.67399	3.50424		
ContolRoom	0.73946	25.38668	1.63070	2.37017		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.772330E+000	5.693387E-001	4.097766E-001	1.349269E-002	0.000000E+000	0.000000E+000	6.926376E-008
Co-60	2.127938E+000	6.835721E-001	4.919950E-001	1.619992E-002	0.000000E+000	0.000000E+000	8.316114E-008
Br-82E	1.485362E+001	9.029611E+000	6.019744E+000	7.078955E-002	0.000000E+000	0.000000E+000	3.188820E-006
Br-82O	7.242088E+001	1.319476E+002	8.796509E+001	1.308976E-001	0.000000E+000	0.000000E+000	1.025296E-006
Br-82P	1.962892E+002	6.313642E+001	4.544190E+001	1.547438E+000	0.000000E+000	0.000000E+000	8.004426E-006
Br-83E	3.086434E+001	1.878659E+001	1.252449E+001	1.471053E-001	0.000000E+000	0.000000E+000	6.627062E-006
Br-83O	1.504893E+002	2.745670E+002	1.830462E+002	2.721155E-001	0.000000E+000	0.000000E+000	2.131384E-006
Br-83P	4.078709E+002	1.313670E+002	9.455071E+001	3.215644E+000	0.000000E+000	0.000000E+000	1.663523E-005
Br-84E	1.512751E-002	9.252450E-003	6.168524E-003	7.212231E-005	0.000000E+000	0.000000E+000	3.249992E-009
Br-84O	7.377013E-002	1.353053E-001	9.020684E-002	1.336012E-004	0.000000E+000	0.000000E+000	1.046367E-009
Br-84P	1.999122E-001	6.471402E-002	4.657841E-002	1.576494E-003	0.000000E+000	0.000000E+000	8.158672E-009
Kr-85	3.863854E+005	6.761828E+005	4.507886E+005	6.888207E+002	0.000000E+000	0.000000E+000	5.227738E-001
Kr-85m	2.617816E+006	4.584886E+006	3.056604E+006	4.667935E+003	0.000000E+000	0.000000E+000	3.542654E+000
Kr-87	2.057699E+005	3.611156E+005	2.407474E+005	3.671313E+002	0.000000E+000	0.000000E+000	2.786223E-001
Kr-88	3.134588E+006	5.492496E+006	3.661689E+006	5.590159E+003	0.000000E+000	0.000000E+000	4.242540E+000
Rb-86	7.343286E+001	2.362403E+001	1.700319E+001	5.834849E-001	0.000000E+000	0.000000E+000	3.023230E-006
Sr-89	2.588437E+003	8.315035E+002	5.984674E+002	1.970569E+001	0.000000E+000	0.000000E+000	1.011577E-004
Sr-90	2.931495E+002	9.417041E+001	6.777833E+001	2.231737E+000	0.000000E+000	0.000000E+000	1.145646E-005
Sr-91	1.865848E+003	5.995961E+002	4.315546E+002	1.420490E+001	0.000000E+000	0.000000E+000	7.292182E-005
Sr-92	4.487979E+002	1.443534E+002	1.038976E+002	3.416900E+000	0.000000E+000	0.000000E+000	1.754209E-005
Y-90	2.772862E+000	8.907933E-001	6.411408E-001	2.110977E-002	0.000000E+000	0.000000E+000	1.083659E-007
Y-91	3.298966E+001	1.059752E+001	7.627471E+000	2.511492E-001	0.000000E+000	0.000000E+000	1.289257E-006

Y-92	7.294647E+000	2.345586E+000	1.688221E+000	5.553660E-002	0.000000E+000	0.000000E+000	2.851141E-007
Y-93	2.316475E+001	7.443880E+000	5.357674E+000	1.763555E-001	0.000000E+000	0.000000E+000	9.053312E-007
Zr-95	4.319786E+001	1.387677E+001	9.987687E+000	3.288639E-001	0.000000E+000	0.000000E+000	1.688200E-006
Zr-97	3.063600E+001	9.843426E+000	7.084725E+000	2.332333E-001	0.000000E+000	0.000000E+000	1.197305E-006
Nb-95	4.320663E+001	1.387962E+001	9.989734E+000	3.289307E-001	0.000000E+000	0.000000E+000	1.688543E-006
Mo-99	5.491378E+002	1.764125E+002	1.269714E+002	4.180579E+000	0.000000E+000	0.000000E+000	2.146078E-005
Tc-99m	2.071551E+002	6.658392E+001	4.792329E+001	1.577110E+000	0.000000E+000	0.000000E+000	8.096331E-006
Ru-103	5.224403E+002	1.678277E+002	1.207925E+002	3.977322E+000	0.000000E+000	0.000000E+000	2.041730E-005
Ru-105	1.096318E+002	3.524504E+001	2.536738E+001	8.346553E-001	0.000000E+000	0.000000E+000	4.284894E-006
Ru-106	2.287256E+002	7.347513E+001	5.288308E+001	1.741281E+000	0.000000E+000	0.000000E+000	8.938741E-006
Rh-105	3.067490E+002	9.854863E+001	7.092954E+001	2.335281E+000	0.000000E+000	0.000000E+000	1.198809E-005
Sb-125	1.291738E+002	4.149537E+001	2.986593E+001	9.833956E-001	0.000000E+000	0.000000E+000	5.048191E-006
Sb-127	4.891399E+003	1.571356E+003	1.130970E+003	3.723813E+001	0.000000E+000	0.000000E+000	1.911598E-004
Sb-129	6.107704E+002	1.963553E+002	1.413254E+002	4.649956E+000	0.000000E+000	0.000000E+000	2.387163E-005
Te-127	4.141707E+002	1.330955E+002	9.579448E+001	3.153125E+000	0.000000E+000	0.000000E+000	1.618679E-005
Te-127m	9.973123E+001	3.203739E+001	2.305863E+001	7.592506E-001	0.000000E+000	0.000000E+000	3.897559E-006
Te-129	1.753013E+001	5.648039E+000	4.065169E+000	1.334761E-001	0.000000E+000	0.000000E+000	6.853435E-007
Te-129m	4.596682E+002	1.476630E+002	1.062791E+002	3.499439E+000	0.000000E+000	0.000000E+000	1.796413E-005
Te-131m	7.989228E+002	2.566707E+002	1.847365E+002	6.082205E+000	0.000000E+000	0.000000E+000	3.122282E-005
Te-132	8.465175E+003	2.719446E+003	1.957297E+003	6.444524E+001	0.000000E+000	0.000000E+000	3.308261E-004
Te-133m	1.156206E+001	3.728015E+000	2.683242E+000	8.803795E-002	0.000000E+000	0.000000E+000	4.520639E-007
Te-134	3.826951E+000	1.235410E+000	8.891912E-001	2.914159E-002	0.000000E+000	0.000000E+000	1.496519E-007
I-131E	2.388919E+003	1.452129E+003	9.680859E+002	1.138508E+001	0.000000E+000	0.000000E+000	5.128557E-004
I-131O	1.164748E+004	2.121941E+004	1.414628E+004	2.105180E+001	0.000000E+000	0.000000E+000	1.648948E-004
I-131P	3.156933E+004	1.015347E+004	7.307870E+003	2.488746E+002	0.000000E+000	0.000000E+000	1.287345E-003
I-132E	3.084538E+002	1.877640E+002	1.251771E+002	1.470156E+000	0.000000E+000	0.000000E+000	6.623047E-005
I-132O	1.503971E+003	2.744205E+003	1.829486E+003	2.719553E+000	0.000000E+000	0.000000E+000	2.130126E-005
I-132P	4.076204E+003	1.312962E+003	9.449979E+002	3.213681E+001	0.000000E+000	0.000000E+000	1.662517E-004
I-133E	3.762696E+003	2.287515E+003	1.525012E+003	1.793237E+001	0.000000E+000	0.000000E+000	8.077933E-004
I-133O	1.834558E+004	3.342719E+004	2.228481E+004	3.315955E+001	0.000000E+000	0.000000E+000	2.597320E-004
I-133P	4.972369E+004	1.599471E+004	1.151206E+004	3.919960E+002	0.000000E+000	0.000000E+000	2.027686E-003
I-134E	9.445874E+000	5.763236E+000	3.842242E+000	4.502750E-002	0.000000E+000	0.000000E+000	2.028755E-006
I-134O	4.605984E+001	8.425463E+001	5.617099E+001	8.335004E-002	0.000000E+000	0.000000E+000	6.528255E-007
I-134P	1.248277E+002	4.030469E+001	2.900935E+001	9.842583E-001	0.000000E+000	0.000000E+000	5.092745E-006
I-135E	1.969126E+003	1.197532E+003	7.983570E+002	9.384722E+000	0.000000E+000	0.000000E+000	4.227586E-004
I-135O	9.600868E+003	1.750013E+004	1.166678E+004	1.735545E+001	0.000000E+000	0.000000E+000	1.359409E-004
I-135P	2.602185E+004	8.373495E+003	6.026761E+003	2.051465E+002	0.000000E+000	0.000000E+000	1.061195E-003
Xe-133	5.168877E+007	9.045902E+007	6.030602E+007	9.214785E+004	0.000000E+000	0.000000E+000	6.993470E+001
Xe-135	1.163364E+007	2.036711E+007	1.357810E+007	2.074199E+004	0.000000E+000	0.000000E+000	1.574187E+001
Cs-134	8.257237E+003	2.656409E+003	1.911927E+003	6.561056E+001	0.000000E+000	0.000000E+000	3.399500E-004
Cs-136	2.380949E+003	7.659757E+002	5.513044E+002	1.891861E+001	0.000000E+000	0.000000E+000	9.802367E-005
Cs-137	4.230602E+003	1.361013E+003	9.795775E+002	3.361563E+001	0.000000E+000	0.000000E+000	1.741737E-004
Cs-138	1.603433E+000	5.191513E-001	3.736630E-001	1.274459E-002	0.000000E+000	0.000000E+000	6.606600E-008
Ba-139	8.605713E+001	2.771288E+001	1.994628E+001	6.552306E-001	0.000000E+000	0.000000E+000	3.364206E-006
Ba-140	4.501216E+003	1.445972E+003	1.040726E+003	3.426763E+001	0.000000E+000	0.000000E+000	1.759105E-004
La-140	4.106985E+001	1.319428E+001	9.496468E+000	3.126648E-001	0.000000E+000	0.000000E+000	1.605053E-006
La-141	1.035801E+001	3.330310E+000	2.396969E+000	7.885869E-002	0.000000E+000	0.000000E+000	4.048425E-007
La-142	1.117479E+000	3.597777E-001	2.589489E-001	8.508278E-003	0.000000E+000	0.000000E+000	4.368402E-008
Ce-141	1.054911E+002	3.388779E+001	2.439044E+001	8.031007E-001	0.000000E+000	0.000000E+000	4.122661E-006
Ce-143	8.561737E+001	2.750631E+001	1.979743E+001	6.518056E-001	0.000000E+000	0.000000E+000	3.346024E-006
Ce-144	8.308302E+001	2.668934E+001	1.920942E+001	6.325083E-001	0.000000E+000	0.000000E+000	3.246936E-006
Pr-143	3.898882E+001	1.252478E+001	9.014600E+000	2.968208E-001	0.000000E+000	0.000000E+000	1.523709E-006
Nd-147	1.735275E+001	5.74414E+000	4.012136E+000	1.321060E-001	0.000000E+000	0.000000E+000	6.781573E-007
Np-238	3.293445E+001	1.058047E+001	7.615205E+000	2.507297E-001	0.000000E+000	0.000000E+000	1.287110E-006
Np-239	1.384742E+003	4.448572E+002	3.201821E+002	1.054203E+001	0.000000E+000	0.000000E+000	5.411699E-005
Pu-238	4.407541E-001	1.415864E-001	1.019056E-001	3.355446E-003	0.000000E+000	0.000000E+000	1.722494E-008
Pu-239	3.177174E-002	1.020625E-002	7.345860E-003	2.418772E-004	0.000000E+000	0.000000E+000	1.241659E-009
Pu-240	4.812278E-002	1.545881E-002	1.112634E-002	3.663572E-004	0.000000E+000	0.000000E+000	1.880668E-009
Pu-241	1.290815E+001	4.146574E+000	2.984460E+000	9.826934E-002	0.000000E+000	0.000000E+000	5.044586E-007
Am-241	6.633445E-003	2.130907E-003	1.533702E-003	5.050020E-005	0.000000E+000	0.000000E+000	2.592391E-010
Cm-242	2.015073E+000	6.473163E-001	4.659003E-001	1.534069E-002	0.000000E+000	0.000000E+000	7.875032E-008
Cm-244	4.259031E-001	1.368157E-001	9.847194E-002	3.242386E-003	0.000000E+000	0.000000E+000	1.664456E-008

Time = 29988.000000 Seconds  
CPU ClockTime = 46.530000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	24.65182	74.43806	5.11393	29.76575	12.84454 ending at	12738.0 Sec
LPZ	2.87356	9.70228	0.67451	3.54807		
ContolRoom	0.76473	25.53493	1.63861	2.40334		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb.Bldg	ContolRoom
Co-58	1.434726E+000	4.743543E-001	3.414124E-001	1.084379E-002	0.000000E+000	0.000000E+000	4.957188E-008
Co-60	1.722819E+000	5.696036E-001	4.099672E-001	1.302122E-002	0.000000E+000	0.000000E+000	5.952591E-008
Br-82E	1.475302E+001	8.970870E+000	5.980583E+000	5.881011E-002	0.000000E+000	0.000000E+000	2.745218E-006
Br-82O	7.193040E+001	1.310892E+002	8.739285E+001	1.300479E-001	0.000000E+000	0.000000E+000	9.476897E-007
Br-82P	1.578939E+002	5.227079E+001	3.762146E+001	1.233892E+000	0.000000E+000	0.000000E+000	5.686584E-006
Br-83E	2.804968E+001	1.707921E+001	1.138623E+001	1.118250E-001	0.000000E+000	0.000000E+000	5.220239E-006
Br-83O	1.367655E+002	2.496136E+002	1.664104E+002	2.473763E-001	0.000000E+000	0.000000E+000	1.802628E-006
Br-83P	3.002023E+002	9.952222E+001	7.163061E+001	2.346150E+000	0.000000E+000	0.000000E+000	1.081367E-005
Br-84E	9.821918E-003	6.011130E-003	4.007566E-003	3.917040E-005	0.000000E+000	0.000000E+000	1.828987E-009
Br-84O	4.789711E-002	8.790515E-002	5.860556E-002	8.677884E-005	0.000000E+000	0.000000E+000	6.322747E-010
Br-84P	1.051207E-001	3.503590E-002	2.521736E-002	8.217586E-004	0.000000E+000	0.000000E+000	3.788996E-009
Kr-85	3.862622E+005	6.761454E+005	4.507636E+005	6.888575E+002	0.000000E+000	0.000000E+000	4.866195E-001
Kr-85m	2.486724E+006	4.356623E+006	2.904428E+006	4.435892E+003	0.000000E+000	0.000000E+000	3.133533E+000
Kr-87	1.718004E+005	3.016255E+005	2.010867E+005	3.066525E+002	0.000000E+000	0.000000E+000	2.166119E-001
Kr-88	2.891107E+006	5.067539E+006	3.378382E+006	5.157973E+003	0.000000E+000	0.000000E+000	3.643580E+000
Rb-86	5.942256E+001	1.967536E+001	1.416117E+001	4.678843E-001	0.000000E+000	0.000000E+000	2.160156E-006
Sr-89	2.095263E+003	6.927440E+002	4.985965E+002	1.583619E+001	0.000000E+000	0.000000E+000	7.239440E-005
Sr-90	2.373404E+002	7.847018E+001	5.647823E+001	1.793840E+000	0.000000E+000	0.000000E+000	8.200456E-006
Sr-91	1.474695E+003	4.877546E+002	3.510575E+002	1.114610E+001	0.000000E+000	0.000000E+000	5.095522E-005

Sr-92	3.339465E+002	1.105584E+002	7.957381E+001	2.524167E+000	0.000000E+000	0.000000E+000	1.154019E-005
Y-90	2.236974E+000	7.396369E-001	5.323473E-001	1.690730E-002	0.000000E+000	0.000000E+000	7.729124E-008
Y-91	2.670483E+001	8.829254E+000	6.354779E+000	2.018376E-001	0.000000E+000	0.000000E+000	9.226913E-007
Y-92	5.536369E+000	1.832329E+000	1.318807E+000	4.184653E-002	0.000000E+000	0.000000E+000	1.913132E-007
Y-93	1.833882E+001	6.065393E+000	4.365519E+000	1.386089E-001	0.000000E+000	0.000000E+000	6.336600E-007
Zr-95	3.496877E+001	1.156151E+001	8.321294E+000	2.642972E-001	0.000000E+000	0.000000E+000	1.208223E-006
Zr-97	2.446819E+001	8.091494E+000	5.823787E+000	1.849348E-001	0.000000E+000	0.000000E+000	8.454336E-007
Nb-95	3.497155E+001	1.156245E+001	8.321972E+000	2.643182E-001	0.000000E+000	0.000000E+000	1.208319E-006
Mo-99	4.430551E+002	1.464922E+002	1.054365E+002	3.348659E+000	0.000000E+000	0.000000E+000	1.530830E-005
Tc-99m	1.614542E+002	5.341273E+001	3.844342E+001	1.220322E+000	0.000000E+000	0.000000E+000	5.578883E-006
Ru-103	4.228771E+002	1.398134E+002	1.006295E+002	3.196144E+000	0.000000E+000	0.000000E+000	1.461103E-005
Ru-105	8.430347E+001	2.789546E+001	2.007757E+001	6.371993E-001	0.000000E+000	0.000000E+000	2.913094E-006
Ru-106	1.851768E+002	6.122373E+001	4.406525E+001	1.399583E+000	0.000000E+000	0.000000E+000	6.398130E-006
Rh-105	2.467515E+002	8.159007E+001	5.872376E+001	1.864979E+000	0.000000E+000	0.000000E+000	8.525728E-006
Sb-125	1.045811E+002	3.457690E+001	2.488643E+001	7.904331E-001	0.000000E+000	0.000000E+000	3.613428E-006
Sb-127	3.950373E+003	1.306135E+003	9.400796E+002	2.985733E+001	0.000000E+000	0.000000E+000	1.364918E-004
Sb-129	4.694437E+002	1.553370E+002	1.118028E+002	3.548245E+000	0.000000E+000	0.000000E+000	1.622157E-005
Te-127	3.272609E+002	1.082418E+002	7.790617E+001	2.473515E+000	0.000000E+000	0.000000E+000	1.130787E-005
Te-127m	8.073764E+001	2.669376E+001	1.921260E+001	6.102225E-001	0.000000E+000	0.000000E+000	2.789604E-006
Te-129	1.165280E+001	3.864761E+000	2.781657E+000	8.808671E-002	0.000000E+000	0.000000E+000	4.027725E-007
Te-129m	3.720524E+002	1.230096E+002	8.853510E+001	2.812006E+000	0.000000E+000	0.000000E+000	1.285496E-005
Te-131m	6.422759E+002	2.123750E+002	1.528551E+002	4.854407E+000	0.000000E+000	0.000000E+000	2.219187E-005
Te-132	6.833593E+003	2.259448E+003	1.626218E+003	5.164904E+001	0.000000E+000	0.000000E+000	2.361119E-004
Te-133m	7.306843E+000	2.425329E+000	1.745632E+000	5.523666E-002	0.000000E+000	0.000000E+000	2.525813E-007
Te-134	2.234712E+000	7.426897E-001	5.345537E-001	1.689454E-002	0.000000E+000	0.000000E+000	7.726067E-008
I-131E	2.385333E+003	1.450333E+003	9.668888E+002	9.508626E+000	0.000000E+000	0.000000E+000	4.438549E-004
I-131O	1.163000E+004	2.119317E+004	1.412878E+004	2.102613E+001	0.000000E+000	0.000000E+000	1.532226E-004
I-131P	2.552898E+004	8.450659E+003	6.082288E+003	1.995002E+002	0.000000E+000	0.000000E+000	9.194225E-004
I-132E	2.789218E+002	1.698461E+002	1.132317E+002	1.111976E+000	0.000000E+000	0.000000E+000	5.190972E-005
I-132O	1.359978E+003	2.482332E+003	1.654902E+003	2.459939E+000	0.000000E+000	0.000000E+000	1.792551E-005
I-132P	2.985167E+003	9.897130E+002	7.123411E+002	2.332986E+001	0.000000E+000	0.000000E+000	1.075306E-004
I-133E	3.720366E+003	2.262398E+003	1.508267E+003	1.483060E+001	0.000000E+000	0.000000E+000	6.922851E-004
I-133O	1.813920E+004	3.306016E+004	2.204012E+004	3.279584E+001	0.000000E+000	0.000000E+000	2.389905E-004
I-133P	3.981716E+004	1.318242E+004	9.487934E+003	3.111598E+002	0.000000E+000	0.000000E+000	1.434036E-003
I-134E	7.274266E+000	4.440402E+000	2.960333E+000	2.900509E-002	0.000000E+000	0.000000E+000	1.354178E-006
I-134O	3.547068E+001	6.491570E+001	4.327808E+001	6.421062E-002	0.000000E+000	0.000000E+000	4.678724E-007
I-134P	7.785352E+001	2.587773E+001	1.862553E+001	6.085219E-001	0.000000E+000	0.000000E+000	2.805263E-006
I-135E	1.901148E+003	1.156529E+003	7.710216E+002	7.578785E+000	0.000000E+000	0.000000E+000	3.537798E-004
I-135O	9.269426E+003	1.690093E+004	1.126732E+004	1.676118E+001	0.000000E+000	0.000000E+000	1.221413E-004
I-135P	2.034702E+004	6.738913E+003	4.850283E+003	1.590092E+002	0.000000E+000	0.000000E+000	7.328417E-004
Xe-133	5.157856E+007	9.029009E+007	6.019340E+007	9.198567E+004	0.000000E+000	0.000000E+000	6.498005E+001
Xe-135	1.134127E+007	1.986091E+007	1.324063E+007	2.022839E+004	0.000000E+000	0.000000E+000	1.428953E+001
Cs-134	6.685165E+003	2.213503E+003	1.593149E+003	5.263796E+001	0.000000E+000	0.000000E+000	2.430219E-004
Cs-136	1.926276E+003	6.378100E+002	4.590582E+002	1.516721E+001	0.000000E+000	0.000000E+000	7.002487E-005
Cs-137	3.425190E+003	1.134103E+003	8.162609E+002	2.696942E+001	0.000000E+000	0.000000E+000	1.245139E-004
Cs-138	8.476729E-001	2.825760E-001	2.033862E-001	6.676660E-003	0.000000E+000	0.000000E+000	3.083982E-008
Ba-139	5.914381E+001	1.960523E+001	1.411081E+001	4.470725E-001	0.000000E+000	0.000000E+000	2.044143E-006
Ba-140	3.641565E+003	1.203999E+003	8.665680E+002	2.752329E+001	0.000000E+000	0.000000E+000	1.258216E-004
La-140	3.306277E+001	1.093230E+001	7.868429E+000	2.498926E-001	0.000000E+000	0.000000E+000	1.142379E-006
La-141	7.908382E+000	2.617128E+000	1.883661E+000	5.977505E-002	0.000000E+000	0.000000E+000	2.732767E-007
La-142	7.798585E-001	2.584477E-001	1.860170E-001	5.894937E-003	0.000000E+000	0.000000E+000	2.695288E-008
Ce-141	8.538301E+001	2.822972E+001	2.031809E+001	6.453327E-001	0.000000E+000	0.000000E+000	2.950109E-006
Ce-143	6.884071E+001	2.276282E+001	1.638334E+001	5.203072E-001	0.000000E+000	0.000000E+000	2.378578E-006
Ce-144	6.726367E+001	2.223893E+001	1.600627E+001	5.083849E-001	0.000000E+000	0.000000E+000	2.324058E-006
Pr-143	3.154409E+001	1.042932E+001	7.506410E+000	2.384132E-001	0.000000E+000	0.000000E+000	1.089896E-006
Nd-147	1.403699E+001	4.641017E+000	3.340332E+000	1.060930E-001	0.000000E+000	0.000000E+000	4.849995E-007
Np-238	2.654471E+001	8.776919E+000	6.317112E+000	2.006281E-001	0.000000E+000	0.000000E+000	9.171664E-007
Pu-239	1.116591E+003	3.691943E+002	2.657245E+002	8.439323E+000	0.000000E+000	0.000000E+000	3.858015E-005
Pu-238	3.568445E+001	1.179810E-001	8.491580E-002	2.697063E-003	0.000000E+000	0.000000E+000	1.232950E-008
Pu-239	2.572313E-002	8.504657E-003	6.121153E-003	1.944177E-004	0.000000E+000	0.000000E+000	8.887717E-010
Pu-240	3.896131E-002	1.288150E-002	9.271351E-003	2.944731E-004	0.000000E+000	0.000000E+000	1.346170E-009
Pu-241	1.045072E+001	3.455248E+000	2.486884E+000	7.898748E-002	0.000000E+000	0.000000E+000	3.610876E-007
Am-241	5.370589E-003	1.775640E-003	1.278002E-003	4.059140E-005	0.000000E+000	0.000000E+000	1.855617E-010
Cm-242	1.631354E+000	5.393637E-001	3.882023E-001	1.232992E-002	0.000000E+000	0.000000E+000	5.636567E-008
Cm-244	3.448204E-001	1.140056E-001	8.205450E-002	2.606184E-003	0.000000E+000	0.000000E+000	1.191405E-008

Time = 43200.000000 Seconds  
CPU ClockTime = 66.460000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
	EAB 29.41341	75.38741	5.16844	34.58185	12.84454 ending at		12738.0 Sec
	LPZ 3.23068	9.73890	0.67661	3.90729			
ContolRoom	0.92274	26.09890	1.66523	2.58797			
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.847779E-001	6.230864E-002	4.484610E-002	1.046726E-003	0.000000E+000	0.000000E+000	2.706986E-009
Co-60	2.222016E-001	7.492795E-002	5.392874E-002	1.258722E-003	0.000000E+000	0.000000E+000	3.255239E-009
Br-82E	1.367914E+001	8.342800E+000	5.561870E+000	2.108498E-002	0.000000E+000	0.000000E+000	5.347066E-007
Br-82O	6.669455E+001	1.219114E+002	8.127428E+001	1.207763E-001	0.000000E+000	0.000000E+000	5.607221E-007
Br-82P	1.894975E+001	6.398632E+000	4.605361E+000	1.093514E-001	0.000000E+000	0.000000E+000	2.844744E-007
Br-83E	9.684432E+000	5.919306E+000	3.946236E+000	1.493185E-002	0.000000E+000	0.000000E+000	3.786250E-007
Br-83O	4.721964E+001	8.651098E+001	5.767445E+001	8.557076E-002	0.000000E+000	0.000000E+000	3.972446E-007
Br-83P	1.341592E+001	4.540235E+000	3.267811E+000	7.742781E-002	0.000000E+000	0.000000E+000	2.014438E-007
Br-84E	8.057062E-005	4.965308E-005	3.310326E-005	1.243631E-007	0.000000E+000	0.000000E+000	3.152166E-012
Br-84O	3.929070E-004	7.261134E-004	4.840932E-004	7.139618E-007	0.000000E+000	0.000000E+000	3.313444E-012
Br-84P	1.116167E-004	3.809569E-005	2.741966E-005	6.444928E-007	0.000000E+000	0.000000E+000	1.677330E-012
Kr-85	3.848945E+005	6.757296E+005	4.504864E+005	6.876948E+002	0.000000E+000	0.000000E+000	3.109128E-001
Kr-85m	1.404417E+006	2.468864E+006	1.645917E+006	2.510290E+003	0.000000E+000	0.000000E+000	1.134878E+000
Kr-87	2.309881E+004	4.074098E+004	2.716107E+004	4.132925E+001	0.000000E+000	0.000000E+000	1.868262E-002
Kr-88	1.176328E+006	2.069467E+006	1.379654E+006	2.103084E+003	0.000000E+000	0.000000E+000	9.507614E-001
Rb-86	7.621045E+000	2.573663E+000	1.852372E+000	4.416358E-002	0.000000E+000	0.000000E+000	1.150421E-007

Sr-89	2.696862E+002	9.094051E+001	6.545364E+001	1.527712E+000	0.000000E+000	0.000000E+000	3.950886E-006
Sr-90	3.061249E+001	1.032275E+001	7.429708E+000	1.734129E-001	0.000000E+000	0.000000E+000	4.484710E-007
Sr-91	1.455262E+002	4.910230E+001	3.534100E+001	8.244023E-001	0.000000E+000	0.000000E+000	2.132075E-006
Sr-92	1.684769E+001	5.693282E+000	4.097709E+000	9.545023E-002	0.000000E+000	0.000000E+000	2.468687E-007
Y-90	2.773012E-001	9.351634E-002	6.730758E-002	1.570857E-003	0.000000E+000	0.000000E+000	4.062479E-009
Y-91	3.438226E+000	1.159399E+000	8.344672E-001	1.947678E-002	0.000000E+000	0.000000E+000	5.036980E-008
Y-92	3.480741E-001	1.175647E-001	8.461646E-002	1.971949E-003	0.000000E+000	0.000000E+000	5.100071E-009
Y-93	1.843278E+000	6.219186E-001	4.476210E-001	1.044210E-002	0.000000E+000	0.000000E+000	2.700539E-008
Zr-95	4.502905E+000	1.518417E+000	1.092867E+000	2.550795E-002	0.000000E+000	0.000000E+000	6.596729E-008
Zr-97	2.712517E+000	9.149945E-001	6.585598E-001	1.536611E-002	0.000000E+000	0.000000E+000	3.973953E-008
Nb-95	4.497073E+000	1.516455E+000	1.091456E+000	2.547492E-002	0.000000E+000	0.000000E+000	6.588187E-008
Mo-99	5.498388E+001	1.854258E+001	1.334586E+001	3.114730E-001	0.000000E+000	0.000000E+000	8.055171E-007
Tc-99m	1.363820E+001	4.603321E+000	3.313206E+000	7.726169E-002	0.000000E+000	0.000000E+000	1.998174E-007
Ru-103	5.439680E+001	1.834310E+001	1.320228E+001	3.081458E-001	0.000000E+000	0.000000E+000	7.969100E-007
Ru-105	6.131299E+000	2.070209E+000	1.490019E+000	3.473507E-002	0.000000E+000	0.000000E+000	8.983448E-008
Ru-106	2.387781E+001	8.051771E+000	5.795192E+000	1.352624E-001	0.000000E+000	0.000000E+000	3.498083E-007
Rh-105	2.961984E+001	9.989648E+000	7.189965E+000	1.677913E-001	0.000000E+000	0.000000E+000	4.339355E-007
Sb-125	1.348773E+001	4.548157E+000	3.273497E+000	7.640495E-002	0.000000E+000	0.000000E+000	1.975943E-007
Sb-127	4.956577E+002	1.671497E+002	1.203046E+002	2.807800E+000	0.000000E+000	0.000000E+000	7.261396E-006
Sb-129	3.396476E+001	1.146820E+001	8.254162E+000	1.924175E-001	0.000000E+000	0.000000E+000	4.976450E-007
Te-127	3.220296E+001	1.086574E+001	7.820531E+000	1.824291E-001	0.000000E+000	0.000000E+000	4.717994E-007
Te-127m	1.040364E+001	3.508187E+000	2.524987E+000	5.893428E-002	0.000000E+000	0.000000E+000	1.524126E-007
Te-129	1.677123E-001	5.683611E-002	4.090772E-002	9.503283E-004	0.000000E+000	0.000000E+000	2.458164E-009
Te-129m	4.783717E+001	1.613115E+001	1.161025E+001	2.709870E-001	0.000000E+000	0.000000E+000	7.008119E-007
Te-131m	7.658697E+001	2.583027E+001	1.859112E+001	4.338525E-001	0.000000E+000	0.000000E+000	1.122014E-006
Te-132	8.532183E+002	2.877325E+002	2.070930E+002	4.833311E+000	0.000000E+000	0.000000E+000	1.249968E-005
Te-133m	5.994438E-002	2.034053E-002	1.464011E-002	3.396953E-004	0.000000E+000	0.000000E+000	8.787156E-010
Te-134	7.611946E-003	2.588072E-003	1.862775E-003	4.314072E-005	0.000000E+000	0.000000E+000	1.116040E-010
I-131E	2.345821E+003	1.430512E+003	9.536750E+002	3.615777E+000	0.000000E+000	0.000000E+000	9.169526E-005
I-1310	1.143735E+004	2.090354E+004	1.393570E+004	2.071086E+001	0.000000E+000	0.000000E+000	9.615373E-005
I-131P	3.249671E+003	1.097147E+003	7.896624E+002	1.875240E+001	0.000000E+000	0.000000E+000	4.878355E-005
I-132E	9.107539E+001	5.567381E+001	3.711619E+001	1.404260E-001	0.000000E+000	0.000000E+000	3.560743E-006
I-1320	4.440691E+002	8.136830E+002	5.424599E+002	8.047682E-001	0.000000E+000	0.000000E+000	3.735954E-006
I-132P	1.261675E+002	4.270319E+001	3.073541E+001	7.281606E-001	0.000000E+000	0.000000E+000	1.894463E-006
I-133E	3.280518E+003	2.000983E+003	1.333990E+003	5.056652E+000	0.000000E+000	0.000000E+000	1.282340E-004
I-1330	1.599465E+004	2.924013E+004	1.949344E+004	2.896556E+001	0.000000E+000	0.000000E+000	1.344765E-004
I-133P	4.544512E+003	1.534689E+003	1.104580E+003	2.622471E+001	0.000000E+000	0.000000E+000	6.822312E-005
I-134E	3.981576E-001	2.443493E-001	1.629031E-001	6.142260E-004	0.000000E+000	0.000000E+000	1.557171E-008
I-1340	1.941490E+000	3.572222E+000	2.381534E+000	3.523056E-003	0.000000E+000	0.000000E+000	1.635270E-008
I-134P	5.515745E-001	1.874471E-001	1.349153E-001	3.184090E-003	0.000000E+000	0.000000E+000	8.285391E-009
I-135E	1.286269E+003	7.850292E+002	5.233544E+002	1.982832E+000	0.000000E+000	0.000000E+000	5.028212E-005
I-1350	6.271462E+003	1.147202E+004	7.648036E+003	1.135950E+001	0.000000E+000	0.000000E+000	5.273692E-005
I-135P	1.781874E+003	6.021039E+002	4.333598E+002	1.028290E+001	0.000000E+000	0.000000E+000	2.675140E-005
Xe-133	5.036869E+007	8.843255E+007	5.895504E+007	8.999552E+004	0.000000E+000	0.000000E+000	4.068769E+001
Xe-135	8.545325E+006	1.501206E+007	1.000806E+007	1.527102E+004	0.000000E+000	0.000000E+000	6.904024E+000
Cs-134	8.621493E+002	2.911482E+002	2.095514E+002	4.996108E+000	0.000000E+000	0.000000E+000	1.301440E-005
Cs-136	2.464631E+002	8.323220E+001	5.990565E+001	1.428242E+000	0.000000E+000	0.000000E+000	3.720440E-006
Cs-137	4.417859E+002	1.491913E+002	1.073791E+002	2.560126E+000	0.000000E+000	0.000000E+000	6.668899E-006
Cs-138	9.553518E-004	3.261147E-004	2.347235E-004	5.539633E-006	0.000000E+000	0.000000E+000	1.443628E-011
Ba-139	1.233250E+000	4.175848E-001	3.005556E-001	6.987766E-003	0.000000E+000	0.000000E+000	1.807429E-008
Ba-140	4.658103E+002	1.570775E+002	1.130551E+002	2.638714E+000	0.000000E+000	0.000000E+000	6.824102E-006
La-140	4.003481E+000	1.350196E+000	9.717918E-001	2.267901E-002	0.000000E+000	0.000000E+000	5.865155E-008
La-141	5.313028E-001	1.794246E-001	1.291397E-001	3.009971E-003	0.000000E+000	0.000000E+000	7.784671E-009
La-142	1.928224E-002	6.526543E-003	4.697459E-003	1.092534E-004	0.000000E+000	0.000000E+000	2.825866E-010
Ce-141	1.097707E+001	3.701573E+000	2.664175E+000	6.218268E-002	0.000000E+000	0.000000E+000	1.608135E-007
Ce-143	8.222803E+000	2.773271E+000	1.996038E+000	4.658081E-002	0.000000E+000	0.000000E+000	1.204656E-007
Ce-144	8.672618E+000	2.924471E+000	2.104862E+000	4.912844E-002	0.000000E+000	0.000000E+000	1.270533E-007
Pr-143	4.036985E+000	1.361324E+000	9.798011E-001	2.286864E-002	0.000000E+000	0.000000E+000	5.914167E-008
Nd-147	1.793136E+000	6.046713E-001	4.352069E-001	1.015773E-002	0.000000E+000	0.000000E+000	2.626938E-008
Np-238	3.256606E+000	1.098275E+000	7.904743E-001	1.844807E-002	0.000000E+000	0.000000E+000	4.770959E-008
Np-239	1.376825E+002	4.643226E+001	3.341922E+001	7.799453E-001	0.000000E+000	0.000000E+000	2.017060E-006
Pu-238	4.602661E-002	1.552050E-002	1.117074E-002	2.607305E-004	0.000000E+000	0.000000E+000	6.742869E-010
Pu-239	3.317838E-003	1.118798E-003	8.052454E-004	1.879481E-005	0.000000E+000	0.000000E+000	4.860611E-011
Pu-240	5.025334E-003	1.694578E-003	1.219658E-003	2.846739E-005	0.000000E+000	0.000000E+000	7.362082E-011
Pu-241	1.347935E+000	4.545331E-001	3.271462E-001	7.635747E-003	0.000000E+000	0.000000E+000	1.974715E-008
Am-241	6.927126E-004	2.335876E-004	1.681226E-004	3.924062E-006	0.000000E+000	0.000000E+000	1.014819E-011
Cm-242	2.102795E-001	7.090783E-002	5.103529E-002	1.191186E-003	0.000000E+000	0.000000E+000	3.080581E-009
Cm-244	4.447515E-002	1.499734E-002	1.079420E-002	2.519418E-004	0.000000E+000	0.000000E+000	6.515580E-010

Time = 69840.000000 Seconds  
CPU ClockTime = 106.610000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	34.49144	75.86352	5.18599	39.67743	12.84454 ending at	12738.0 Sec	
LPZ	3.61153	9.75726	0.67729	4.28882			
ContolRoom	1.04911	26.32712	1.67299	2.72211			
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.797711E-003	1.039984E-003	7.485196E-004	1.526884E-005	0.000000E+000	0.000000E+000	3.428320E-011
Co-60	4.580171E-003	1.254250E-003	9.027354E-004	1.841474E-005	0.000000E+000	0.000000E+000	4.134670E-011
Br-82E	1.174568E+001	7.206941E+000	4.804630E+000	1.650876E-002	0.000000E+000	0.000000E+000	7.930649E-008
Br-820	5.726767E+001	1.053133E+002	7.020892E+001	1.039205E-001	0.000000E+000	0.000000E+000	4.262950E-007
Br-82P	3.378220E-001	9.264680E-002	6.668175E-002	1.363002E-003	0.000000E+000	0.000000E+000	3.064623E-009
Br-83E	1.134530E+000	6.988001E-001	4.658705E-001	1.595490E-003	0.000000E+000	0.000000E+000	7.664393E-009
Br-830	5.531773E+000	1.021300E+001	6.808722E+000	1.005108E-002	0.000000E+000	0.000000E+000	4.122868E-008
Br-83P	3.263077E-002	8.984083E-003	6.466248E-003	1.316896E-004	0.000000E+000	0.000000E+000	2.961233E-010
Kr-85	3.821514E+005	6.748918E+005	4.499279E+005	6.841574E+002	0.000000E+000	0.000000E+000	2.737936E-001
Kr-85m	4.437889E+005	7.855235E+005	5.236846E+005	7.950751E+002	0.000000E+000	0.000000E+000	3.181731E-001
Kr-87	4.040862E+002	7.193567E+002	4.795784E+002	7.252607E-001	0.000000E+000	0.000000E+000	2.902145E-004
Kr-88	1.918986E+005	3.401126E+005	2.267433E+005	3.439405E+002	0.000000E+000	0.000000E+000	1.376359E-001
Rb-86	1.553175E-001	4.259586E-002	3.065800E-002	6.271483E-004	0.000000E+000	0.000000E+000	1.410543E-009

Sr-89	5.536103E+000	1.516038E+000	1.091155E+000	2.225811E-002	0.000000E+000	0.000000E+000	4.997625E-008
Sr-90	6.310630E-001	1.728124E-001	1.243802E-001	2.537211E-003	0.000000E+000	0.000000E+000	5.696812E-009
Sr-91	1.748386E+000	4.792934E-001	3.449677E-001	7.029956E-003	0.000000E+000	0.000000E+000	1.578479E-008
Sr-92	5.232659E-002	1.438281E-002	1.035195E-002	2.104343E-004	0.000000E+000	0.000000E+000	4.725310E-010
Y-90	5.276808E-003	1.445247E-003	1.040204E-003	2.121582E-005	0.000000E+000	0.000000E+000	4.763616E-011
Y-91	7.062046E-002	1.933908E-002	1.391914E-002	2.839322E-004	0.000000E+000	0.000000E+000	6.375144E-010
Y-92	1.684933E-003	4.627265E-004	3.330445E-004	6.775648E-006	0.000000E+000	0.000000E+000	1.521443E-011
Y-93	2.298155E-002	6.299583E-003	4.534075E-003	9.240436E-005	0.000000E+000	0.000000E+000	2.074809E-010
Zr-95	9.251789E-002	2.533558E-002	1.823506E-002	3.719716E-004	0.000000E+000	0.000000E+000	8.351898E-010
Zr-97	4.120583E-002	1.129073E-002	8.126413E-003	1.656763E-004	0.000000E+000	0.000000E+000	3.719991E-010
Nb-95	9.214219E-002	2.523283E-002	1.816111E-002	3.704612E-004	0.000000E+000	0.000000E+000	8.317986E-010
Mo-99	1.048665E+000	2.872140E-001	2.067198E-001	4.216239E-003	0.000000E+000	0.000000E+000	9.466776E-009
Tc-99m	1.197533E-001	3.284881E-002	2.364269E-002	4.815272E-004	0.000000E+000	0.000000E+000	1.081219E-009
Ru-103	1.115302E+000	3.054214E-001	2.198244E-001	4.484114E-003	0.000000E+000	0.000000E+000	1.006821E-008
Ru-105	3.981242E-002	1.092720E-002	7.864781E-003	1.600920E-004	0.000000E+000	0.000000E+000	3.594748E-010
Ru-106	4.919580E-001	1.347196E-001	9.696327E-002	1.977935E-003	0.000000E+000	0.000000E+000	4.441067E-009
Rh-105	5.282485E-001	1.446986E-001	1.041456E-001	2.123883E-003	0.000000E+000	0.000000E+000	4.768797E-009
Sb-125	2.779901E-001	7.612579E-002	5.479087E-002	1.117669E-003	0.000000E+000	0.000000E+000	2.509508E-009
Sb-127	9.664810E+000	2.646934E+000	1.905108E+000	3.885800E-002	0.000000E+000	0.000000E+000	8.724828E-008
Sb-129	2.182396E-001	5.990086E-002	4.311324E-002	8.775771E-004	0.000000E+000	0.000000E+000	1.970536E-009
Te-127	3.846780E-001	1.054548E-001	7.590028E-002	1.546725E-003	0.000000E+000	0.000000E+000	3.472957E-009
Te-127m	2.140506E-001	5.861656E-002	4.218876E-002	8.605980E-004	0.000000E+000	0.000000E+000	1.932305E-009
Te-129	4.153210E-005	1.147278E-005	8.257519E-006	1.670804E-007	0.000000E+000	0.000000E+000	3.752242E-013
Te-129m	9.799091E-001	2.683450E-001	1.931390E-001	3.939762E-003	0.000000E+000	0.000000E+000	8.845971E-009
Te-131m	1.347671E+000	3.691659E-001	2.657040E-001	5.418473E-003	0.000000E+000	0.000000E+000	1.216622E-008
Te-132	1.647294E+001	4.511590E+000	3.247178E+000	6.623063E-002	0.000000E+000	0.000000E+000	1.487084E-007
Te-133m	4.779080E-006	1.323118E-006	9.523152E-007	1.922881E-008	0.000000E+000	0.000000E+000	4.318576E-014
I-131E	2.268130E+003	1.391367E+003	9.275779E+002	3.187792E+000	0.000000E+000	0.000000E+000	1.531386E-005
I-131O	1.105855E+004	2.033152E+004	1.355435E+004	2.006581E+001	0.000000E+000	0.000000E+000	8.231277E-005
I-131P	6.523455E+001	1.788622E+001	1.287345E+001	2.631960E-001	0.000000E+000	0.000000E+000	5.917762E-007
I-132E	9.534355E+000	5.873844E+000	3.915929E+000	1.340859E-002	0.000000E+000	0.000000E+000	6.441193E-008
I-132O	4.648799E+001	8.584731E+001	5.723202E+001	8.447356E-002	0.000000E+000	0.000000E+000	3.465023E-007
I-132P	2.742242E-001	7.551715E-002	5.435310E-002	1.106710E-003	0.000000E+000	0.000000E+000	2.488611E-009
I-133E	2.545439E+003	1.562141E+003	1.041428E+003	3.577762E+000	0.000000E+000	0.000000E+000	1.718720E-005
I-133O	1.241067E+004	2.282738E+004	1.521827E+004	2.252241E+001	0.000000E+000	0.000000E+000	9.238957E-005
I-133P	7.321039E+001	2.008176E+001	1.445368E+001	2.953841E-001	0.000000E+000	0.000000E+000	6.641555E-007
I-134E	1.137519E-003	7.056653E-004	4.704539E-004	1.601362E-006	0.000000E+000	0.000000E+000	7.692243E-012
I-134O	5.546755E-003	1.031635E-002	6.877719E-003	1.010252E-005	0.000000E+000	0.000000E+000	4.143557E-011
I-134P	3.271698E-005	9.073956E-006	6.530991E-006	1.321034E-007	0.000000E+000	0.000000E+000	2.971052E-013
I-135E	5.850455E+002	3.594127E+002	2.396092E+002	8.224380E-001	0.000000E+000	0.000000E+000	3.950882E-006
I-135O	2.852506E+003	5.252276E+003	3.501527E+003	5.178400E+000	0.000000E+000	0.000000E+000	2.124211E-005
I-135P	1.682674E+001	4.620470E+000	3.325549E+000	6.789620E-002	0.000000E+000	0.000000E+000	1.526648E-007
Xe-133	4.801478E+007	8.480249E+007	5.653501E+007	8.596201E+004	0.000000E+000	0.000000E+000	3.440118E+001
Xe-135	4.828947E+006	8.537594E+006	5.691742E+006	8.648207E+003	0.000000E+000	0.000000E+000	3.460887E+000
Cs-134	1.776815E+001	4.872811E+000	3.507163E+000	7.174495E-002	0.000000E+000	0.000000E+000	1.613642E-007
Cs-136	4.998983E+000	1.370985E+000	9.867545E-001	2.018514E-002	0.000000E+000	0.000000E+000	4.539918E-008
Cs-137	9.107228E+000	2.497603E+000	1.797628E+000	3.677353E-002	0.000000E+000	0.000000E+000	8.270872E-008
Ba-139	6.449351E-004	1.778940E-004	1.280388E-004	2.594263E-006	0.000000E+000	0.000000E+000	5.825914E-012
Ba-140	9.443043E+000	2.586000E+000	1.861251E+000	3.796617E-002	0.000000E+000	0.000000E+000	8.524570E-008
La-140	7.266178E-002	1.990294E-002	1.432497E-002	2.921442E-004	0.000000E+000	0.000000E+000	6.559568E-010
La-141	2.939948E-003	8.071737E-004	5.809580E-004	1.182225E-005	0.000000E+000	0.000000E+000	2.654619E-011
La-142	1.421780E-005	3.919077E-006	2.820744E-006	5.718872E-008	0.000000E+000	0.000000E+000	1.284261E-013
Ce-141	2.248088E-001	6.156320E-002	4.430958E-002	9.038524E-004	0.000000E+000	0.000000E+000	2.029425E-009
Ce-143	1.451923E-001	3.977207E-002	2.862561E-002	5.837627E-004	0.000000E+000	0.000000E+000	1.310735E-009
Ce-144	1.786516E-001	4.892262E-002	3.521163E-002	7.182750E-004	0.000000E+000	0.000000E+000	1.612746E-009
Pr-143	8.192189E-002	2.243447E-002	1.614701E-002	3.293705E-004	0.000000E+000	0.000000E+000	7.395379E-010
Nd-147	3.625288E-002	9.927993E-003	7.145587E-003	1.457564E-004	0.000000E+000	0.000000E+000	3.272678E-010
Np-238	6.068817E-002	1.662236E-002	1.196380E-002	2.440022E-004	0.000000E+000	0.000000E+000	5.478620E-010
Np-239	2.592081E+000	7.099512E-001	5.109813E-001	1.042168E-002	0.000000E+000	0.000000E+000	2.339995E-008
Pu-238	9.488310E-004	2.598311E-004	1.870112E-004	3.814808E-006	0.000000E+000	0.000000E+000	8.565408E-012
Pu-239	6.839714E-005	1.873010E-005	1.348083E-005	2.749931E-007	0.000000E+000	0.000000E+000	6.174434E-013
Pu-240	1.035971E-004	2.836939E-005	2.041862E-005	4.165158E-007	0.000000E+000	0.000000E+000	9.352051E-013
Pu-241	2.778650E-002	7.609151E-003	5.476620E-003	1.117166E-004	0.000000E+000	0.000000E+000	2.508379E-010
Am-241	1.428023E-005	3.910547E-006	2.814582E-006	5.741417E-008	0.000000E+000	0.000000E+000	1.289123E-013
Cm-242	4.329219E-003	1.185531E-003	8.532756E-004	1.740578E-005	0.000000E+000	0.000000E+000	3.908128E-011
Cm-244	9.168243E-004	2.510663E-004	1.807028E-004	3.686124E-006	0.000000E+000	0.000000E+000	8.276474E-012

Time = 86400.000000 Seconds

CPU ClockTime = 131.710000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	36.48594	76.09708	5.19323	41.67917	12.84454 ending at	12738.0 Sec
LPZ	3.76112	9.76627	0.67757	4.43869		
ContolRoom	1.09675	26.42547	1.67603	2.77278		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.667150E-004	8.167345E-005	5.878376E-005	1.335470E-006	0.000000E+000	0.000000E+000	2.912883E-012
Co-60	4.430712E-004	9.867850E-005	7.102299E-005	1.613537E-006	0.000000E+000	0.000000E+000	3.519392E-012
Br-82E	1.068412E+001	6.580216E+000	4.386813E+000	1.502108E-002	0.000000E+000	0.000000E+000	6.260200E-008
Br-82O	5.209189E+001	9.615514E+001	6.410346E+001	9.464853E-002	0.000000E+000	0.000000E+000	3.868783E-007
Br-82P	2.985977E-002	6.660528E-003	4.793859E-003	1.088585E-004	0.000000E+000	0.000000E+000	2.375451E-010
Br-83E	2.991751E-001	1.851566E-001	1.234387E-001	4.209171E-004	0.000000E+000	0.000000E+000	1.754271E-009
Br-83O	1.458727E+000	2.706074E+000	1.804064E+000	2.654781E-003	0.000000E+000	0.000000E+000	1.085094E-008
Br-83P	8.361323E-004	1.874367E-004	1.349066E-004	3.049210E-006	0.000000E+000	0.000000E+000	6.654507E-012
Kr-85	3.804561E+005	6.743715E+005	4.495810E+005	6.819491E+002	0.000000E+000	0.000000E+000	2.719536E-001
Kr-85m	2.168538E+005	3.854811E+005	2.569885E+005	3.890554E+002	0.000000E+000	0.000000E+000	1.551468E-001
Kr-87	3.267480E+001	5.850424E+001	3.900342E+001	5.875764E-002	0.000000E+000	0.000000E+000	2.342968E-005
Kr-88	6.216870E+004	1.106942E+005	7.379663E+004	1.115953E+002	0.000000E+000	0.000000E+000	4.450109E-002
Rb-86	1.491930E-002	3.327705E-003	2.395086E-003	5.440281E-005	0.000000E+000	0.000000E+000	1.187262E-010
Sr-89	5.341754E-001	1.189700E-001	8.562761E-002	1.945313E-003	0.000000E+000	0.000000E+000	4.243052E-009
Sr-90	6.105048E-002	1.359684E-002	9.786207E-003	2.223281E-004	0.000000E+000	0.000000E+000	4.849346E-010

Sr-91	1.209197E-001	2.696689E-002	1.940921E-002	4.403921E-004	0.000000E+000	0.000000E+000	9.605951E-010
Sr-92	1.560884E-003	3.492767E-004	2.513900E-004	5.685987E-006	0.000000E+000	0.000000E+000	1.240329E-011
Y-90	4.857173E-004	1.081980E-004	7.787457E-005	1.768864E-006	0.000000E+000	0.000000E+000	3.858202E-012
Y-91	6.816572E-003	1.518165E-003	1.092686E-003	2.482399E-005	0.000000E+000	0.000000E+000	5.414526E-011
Y-92	6.622707E-005	1.480314E-005	1.065447E-005	2.412349E-007	0.000000E+000	0.000000E+000	5.262128E-013
Y-93	1.626457E-003	3.626904E-004	2.610436E-004	5.923553E-006	0.000000E+000	0.000000E+000	1.292059E-011
Zr-95	8.931949E-003	1.989293E-003	1.431776E-003	3.252758E-005	0.000000E+000	0.000000E+000	7.094808E-011
Zr-97	3.297278E-003	7.349118E-004	5.289467E-004	1.200831E-005	0.000000E+000	0.000000E+000	2.619253E-011
Nb-95	8.880356E-003	1.977816E-003	1.423516E-003	3.233971E-005	0.000000E+000	0.000000E+000	7.053831E-011
Mo-99	9.666280E-002	2.153241E-002	1.549776E-002	3.520222E-004	0.000000E+000	0.000000E+000	7.678220E-010
Tc-99m	6.815590E-003	1.521167E-003	1.094849E-003	2.482374E-005	0.000000E+000	0.000000E+000	5.414709E-011
Ru-103	1.075338E-001	2.394969E-002	1.723758E-002	3.916073E-004	0.000000E+000	0.000000E+000	8.541607E-010
Ru-105	1.878289E-003	4.195296E-004	3.019536E-004	6.841431E-006	0.000000E+000	0.000000E+000	1.492319E-011
Ru-106	4.757677E-002	1.059606E-002	7.626424E-003	1.732608E-004	0.000000E+000	0.000000E+000	3.779106E-010
Rh-105	4.670282E-002	1.040517E-002	7.489030E-003	1.700820E-004	0.000000E+000	0.000000E+000	3.709799E-010
Sb-125	2.689019E-002	5.988844E-003	4.310418E-003	9.792627E-005	0.000000E+000	0.000000E+000	2.135935E-010
Sb-127	9.032121E-001	2.011865E-001	1.448023E-001	3.289265E-003	0.000000E+000	0.000000E+000	7.174454E-009
Sb-129	1.022921E-002	2.284829E-003	1.644490E-003	3.725868E-005	0.000000E+000	0.000000E+000	8.127226E-011
Te-127	2.650981E-002	5.912165E-003	4.255235E-003	9.654935E-005	0.000000E+000	0.000000E+000	2.105961E-010
Te-127m	2.068277E-002	4.606381E-003	3.315403E-003	7.532069E-005	0.000000E+000	0.000000E+000	1.642869E-010
Te-129m	9.442574E-002	2.103034E-002	1.513640E-002	3.438715E-004	0.000000E+000	0.000000E+000	7.500411E-010
Te-131m	1.181590E-001	2.632614E-002	1.894802E-002	4.303116E-004	0.000000E+000	0.000000E+000	9.385887E-010
Te-132	1.530011E+000	3.408116E-001	2.452962E-001	5.571912E-003	0.000000E+000	0.000000E+000	1.215331E-008
I-131E	2.221137E+003	1.367575E+003	9.117166E+002	3.122624E+000	0.000000E+000	0.000000E+000	1.301385E-005
I-131O	1.082944E+004	1.998386E+004	1.332257E+004	1.967467E+001	0.000000E+000	0.000000E+000	8.042094E-005
I-131P	6.207592E+000	1.384257E+000	9.963072E-001	2.263033E-002	0.000000E+000	0.000000E+000	4.938239E-008
I-132E	2.344412E+000	1.451332E+000	9.675630E-001	3.298545E-003	0.000000E+000	0.000000E+000	1.374749E-008
I-132O	1.143098E+001	2.121149E+001	1.414111E+001	2.080550E-002	0.000000E+000	0.000000E+000	8.503851E-008
I-132P	6.552145E-003	1.469214E-003	1.057460E-003	2.389481E-005	0.000000E+000	0.000000E+000	5.214764E-011
I-133E	2.174065E+003	1.339312E+003	8.928752E+002	3.056687E+000	0.000000E+000	0.000000E+000	1.273909E-005
I-133O	1.059998E+004	1.957120E+004	1.304748E+004	1.926127E+001	0.000000E+000	0.000000E+000	7.873072E-005
I-133P	6.076039E+000	1.355665E+000	9.757289E-001	2.215151E-002	0.000000E+000	0.000000E+000	4.833809E-008
I-134E	2.981902E-005	1.862281E-005	1.241548E-005	4.200902E-008	0.000000E+000	0.000000E+000	1.750922E-013
I-134O	1.454031E-004	2.722529E-004	1.815059E-004	2.654358E-007	0.000000E+000	0.000000E+000	1.084817E-012
I-135E	3.585144E+002	2.211475E+002	1.474321E+002	5.041591E-001	0.000000E+000	0.000000E+000	2.101158E-006
I-135O	1.748009E+003	3.231737E+003	2.154498E+003	3.177707E+000	0.000000E+000	0.000000E+000	1.298875E-005
I-135P	1.001971E+000	2.238543E-001	1.611175E-001	3.653207E-003	0.000000E+000	0.000000E+000	7.972096E-009
Xe-133	4.660732E+007	8.262147E+007	5.508099E+007	8.354407E+004	0.000000E+000	0.000000E+000	3.331640E+001
Xe-135	3.386626E+006	6.011364E+006	4.007585E+006	6.073094E+003	0.000000E+000	0.000000E+000	2.421850E+000
Cs-134	1.718650E+000	3.833289E-001	2.758976E-001	6.266996E-003	0.000000E+000	0.000000E+000	1.367679E-008
Cs-136	4.787614E-001	1.067875E-001	7.685939E-002	1.745791E-003	0.000000E+000	0.000000E+000	3.809934E-009
Cs-137	8.810545E-001	1.965109E-001	1.414370E-001	3.212734E-003	0.000000E+000	0.000000E+000	7.011318E-009
Ba-139	6.356311E-006	1.428676E-006	1.028286E-006	2.316129E-008	0.000000E+000	0.000000E+000	5.052821E-014
Ba-140	9.040834E-001	2.013611E-001	1.449279E-001	3.292418E-003	0.000000E+000	0.000000E+000	7.181317E-009
La-140	6.494463E-003	1.446872E-003	1.041374E-003	2.365142E-005	0.000000E+000	0.000000E+000	5.158802E-011
La-141	1.255742E-004	2.805911E-005	2.019536E-005	4.573998E-007	0.000000E+000	0.000000E+000	9.977327E-013
Ce-141	2.166007E-002	4.824095E-003	3.472100E-003	7.887976E-005	0.000000E+000	0.000000E+000	1.720499E-010
Ce-143	1.275721E-002	2.842315E-003	2.045732E-003	4.645918E-005	0.000000E+000	0.000000E+000	1.013360E-010
Ce-144	1.727531E-002	3.847473E-003	2.769185E-003	6.291168E-005	0.000000E+000	0.000000E+000	1.372208E-010
Pr-143	7.848198E-003	1.747978E-003	1.258092E-003	2.858093E-005	0.000000E+000	0.000000E+000	6.233981E-011
Nd-147	3.465051E-003	7.717552E-004	5.554641E-004	1.261875E-005	0.000000E+000	0.000000E+000	2.752361E-011
Np-238	5.514060E-003	1.228372E-003	8.841099E-004	2.008093E-005	0.000000E+000	0.000000E+000	4.380006E-011
Np-239	2.370120E-001	5.279802E-002	3.800092E-002	8.631414E-004	0.000000E+000	0.000000E+000	1.882664E-009
Pu-238	9.179285E-005	2.044362E-005	1.471412E-005	3.342829E-007	0.000000E+000	0.000000E+000	7.291266E-013
Pu-239	6.616978E-006	1.473698E-006	1.060682E-006	2.409711E-008	0.000000E+000	0.000000E+000	5.255981E-014
Pu-240	1.002235E-005	2.232124E-006	1.606552E-006	3.649848E-008	0.000000E+000	0.000000E+000	7.960924E-014
Pu-241	2.688096E-003	5.986785E-004	4.308937E-004	9.789264E-006	0.000000E+000	0.000000E+000	2.135201E-011
Am-241	1.381518E-006	3.076845E-007	2.214532E-007	5.031089E-009	0.000000E+000	0.000000E+000	1.097364E-014
Cm-242	4.184821E-004	9.320243E-005	6.708164E-005	1.523991E-006	0.000000E+000	0.000000E+000	3.324077E-012
Cm-244	8.869501E-005	1.975369E-005	1.421754E-005	3.230015E-007	0.000000E+000	0.000000E+000	7.045199E-013

Time = 259200.000000 Seconds  
CPU ClockTime = 410.130000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	47.83879	78.10127	5.25465	53.09343	12.84454 ending at	12738.0 Sec
LPZ	4.13955	9.81017	0.67891	4.81846		
ContolRoom	1.20456	26.75582	1.68615	2.89071		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.434236E-004	8.200700E-005	5.467133E-005	4.395473E-007	0.000000E+000	0.000000E+000	3.866565E-013
Co-60	4.228300E-004	1.009675E-004	6.731166E-005	5.411789E-007	0.000000E+000	0.000000E+000	4.760587E-013
Br-82E	3.976102E+000	2.545081E+000	1.696722E+000	5.622247E-003	0.000000E+000	0.000000E+000	1.470606E-008
Br-82O	1.938603E+001	3.719066E+001	2.479379E+001	3.569372E-002	0.000000E+000	0.000000E+000	9.333273E-008
Br-82P	1.111234E-002	2.658185E-003	1.772124E-003	1.422424E-005	0.000000E+000	0.000000E+000	1.251274E-011
Br-83O	1.328555E-006	2.568824E-006	1.712563E-006	2.452889E-009	0.000000E+000	0.000000E+000	6.414289E-015
Kr-85	3.632085E+005	6.689633E+005	4.459756E+005	6.594430E+002	0.000000E+000	0.000000E+000	1.682292E-001
Kr-85m	1.232681E+002	2.280631E+002	1.520427E+002	2.241506E-001	0.000000E+000	0.000000E+000	5.718488E-005
Kr-88	4.850045E-001	8.996653E-001	5.997809E-001	8.827175E-004	0.000000E+000	0.000000E+000	2.252019E-007
Rb-86	1.322731E-002	3.163310E-003	2.108873E-003	1.693120E-005	0.000000E+000	0.000000E+000	1.489387E-011
Sr-89	4.963313E-001	1.185208E-001	7.901387E-002	6.352538E-004	0.000000E+000	0.000000E+000	5.588137E-010
Sr-90	5.829583E-002	1.392045E-002	9.280297E-003	7.461267E-005	0.000000E+000	0.000000E+000	6.563451E-011
Sr-91	3.479434E-003	8.326201E-004	5.550812E-004	4.453949E-006	0.000000E+000	0.000000E+000	3.918120E-012
Y-90	2.759930E-004	6.592504E-005	4.395004E-005	3.532500E-007	0.000000E+000	0.000000E+000	3.107447E-013
Y-91	6.357399E-003	1.518103E-003	1.012069E-003	8.136826E-006	0.000000E+000	0.000000E+000	7.157720E-012
Y-93	5.951629E-005	1.424003E-005	9.493368E-006	7.618477E-008	0.000000E+000	0.000000E+000	6.701928E-014
Zr-95	8.347320E-003	1.993280E-003	1.328854E-003	1.068372E-005	0.000000E+000	0.000000E+000	9.398148E-012
Zr-97	4.345852E-004	1.038992E-004	6.926623E-005	5.562689E-007	0.000000E+000	0.000000E+000	4.893411E-013
Nb-95	8.151152E-003	1.946458E-003	1.297639E-003	1.043265E-005	0.000000E+000	0.000000E+000	9.177293E-012
Mo-99	5.573684E-002	1.331346E-002	8.875641E-003	7.133888E-005	0.000000E+000	0.000000E+000	6.275492E-011
Tc-99m	2.566113E-005	6.148225E-006	4.098830E-006	3.285096E-008	0.000000E+000	0.000000E+000	2.889935E-014

Ru-103	9.913313E-002	2.367248E-002	1.578165E-002	1.268804E-004	0.000000E+000	0.000000E+000	1.116129E-010
Ru-106	4.526724E-002	1.080938E-002	7.206251E-003	5.793743E-005	0.000000E+000	0.000000E+000	5.096580E-011
Rh-105	1.742497E-002	4.163276E-003	2.775519E-003	2.230301E-005	0.000000E+000	0.000000E+000	1.961944E-011
Sb-125	2.564492E-002	6.123747E-003	4.082498E-003	3.282286E-005	0.000000E+000	0.000000E+000	2.887327E-011
Sb-127	6.011853E-001	1.435883E-001	9.572556E-002	7.694666E-004	0.000000E+000	0.000000E+000	6.768786E-010
Sb-129	5.080235E-006	1.218685E-006	8.124602E-007	6.504168E-009	0.000000E+000	0.000000E+000	5.721885E-015
Te-127	7.349152E-004	1.758674E-004	1.172452E-004	9.407504E-007	0.000000E+000	0.000000E+000	8.275744E-013
Te-127m	1.950251E-002	4.657034E-003	3.104689E-003	2.496122E-005	0.000000E+000	0.000000E+000	2.195763E-011
Te-129m	8.653206E-002	2.066348E-002	1.377566E-002	1.107523E-004	0.000000E+000	0.000000E+000	9.742550E-011
Te-131m	4.041118E-002	9.655788E-003	6.437196E-003	5.172431E-005	0.000000E+000	0.000000E+000	4.550070E-011
Te-132	9.550333E-001	2.281110E-001	1.520740E-001	1.222366E-003	0.000000E+000	0.000000E+000	1.075282E-009
I-131E	1.785243E+003	1.142198E+003	7.614653E+002	2.524172E+000	0.000000E+000	0.000000E+000	6.602417E-006
I-131O	8.704180E+003	1.669051E+004	1.112701E+004	1.602358E+001	0.000000E+000	0.000000E+000	4.189866E-005
I-131P	4.989364E+000	1.192950E+000	7.952999E-001	6.386391E-003	0.000000E+000	0.000000E+000	5.617923E-009
I-132E	1.029355E-006	6.642905E-007	4.428641E-007	1.457366E-009	0.000000E+000	0.000000E+000	3.812387E-015
I-132O	5.018972E-006	9.708727E-006	6.472539E-006	9.267893E-009	0.000000E+000	0.000000E+000	2.423557E-014
I-133E	4.193658E+002	2.685394E+002	1.790264E+002	5.930236E-001	0.000000E+000	0.000000E+000	1.551174E-006
I-133O	2.044680E+003	3.924134E+003	2.616092E+003	3.765207E+000	0.000000E+000	0.000000E+000	9.845381E-006
I-133P	1.172036E+000	2.804749E-001	1.869834E-001	1.500294E-003	0.000000E+000	0.000000E+000	1.319781E-009
I-135E	2.163744E+000	1.388422E+000	9.256174E-001	3.060725E-003	0.000000E+000	0.000000E+000	8.006144E-009
I-135O	1.054977E+001	2.028970E+001	1.352650E+001	1.944135E-002	0.000000E+000	0.000000E+000	5.083674E-008
I-135P	6.047199E-003	1.450173E-003	9.667852E-004	7.741954E-006	0.000000E+000	0.000000E+000	6.810654E-012
Xe-133	3.416867E+007	6.294249E+007	4.196167E+007	6.204017E+004	0.000000E+000	0.000000E+000	1.582696E+001
Xe-135	8.354527E+004	1.542169E+005	1.028115E+005	1.518000E+002	0.000000E+000	0.000000E+000	3.872611E-002
Cs-134	1.638303E+000	3.917827E-001	2.611885E-001	2.097051E-003	0.000000E+000	0.000000E+000	1.844712E-009
Cs-136	4.115049E-001	9.841317E-002	6.560878E-002	5.267342E-004	0.000000E+000	0.000000E+000	4.633525E-010
Cs-137	8.413045E-001	2.011888E-001	1.341259E-001	1.076882E-003	0.000000E+000	0.000000E+000	9.473000E-010
Ba-140	7.744496E-001	1.849428E-001	1.232952E-001	9.912203E-004	0.000000E+000	0.000000E+000	8.719473E-010
La-140	2.714889E-003	6.486126E-004	4.324086E-004	3.474895E-006	0.000000E+000	0.000000E+000	3.056781E-012
Ce-141	1.982166E-002	4.733330E-003	3.155554E-003	2.536973E-005	0.000000E+000	0.000000E+000	2.231699E-011
Ce-143	4.461545E-003	1.066020E-003	7.106807E-004	5.710551E-006	0.000000E+000	0.000000E+000	5.023441E-012
Ce-144	1.641782E-002	3.920418E-003	2.613612E-003	2.101313E-005	0.000000E+000	0.000000E+000	1.848461E-011
Pr-143	6.767185E-003	1.616034E-003	1.077356E-003	8.661337E-006	0.000000E+000	0.000000E+000	7.619122E-012
Nd-147	2.916636E-003	6.965160E-004	4.643441E-004	3.733013E-006	0.000000E+000	0.000000E+000	3.283822E-012
Np-238	2.735795E-003	6.535393E-004	4.356930E-004	3.501629E-006	0.000000E+000	0.000000E+000	3.080294E-012
Np-239	1.256388E-001	3.001196E-002	2.000798E-002	1.608085E-004	0.000000E+000	0.000000E+000	1.414591E-010
Pu-238	8.765872E-005	2.093200E-005	1.395467E-005	1.121942E-007	0.000000E+000	0.000000E+000	9.869380E-014
Pu-239	6.319238E-006	1.508969E-006	1.005979E-006	8.087976E-009	0.000000E+000	0.000000E+000	7.114747E-015
Pu-240	9.571373E-006	2.285546E-006	1.523697E-006	1.225037E-008	0.000000E+000	0.000000E+000	1.077628E-014
Pu-241	2.566465E-003	6.128455E-004	4.085637E-004	3.284811E-006	0.000000E+000	0.000000E+000	2.889549E-012
Am-241	1.319344E-006	3.150457E-007	2.100305E-007	1.688624E-009	0.000000E+000	0.000000E+000	1.485432E-015
Cm-242	3.962633E-004	9.462409E-005	6.308273E-005	5.071765E-007	0.000000E+000	0.000000E+000	4.461478E-013
Cm-244	8.468631E-005	2.022222E-005	1.348148E-005	1.083898E-007	0.000000E+000	0.000000E+000	9.534720E-014

Time = 345600.000000 Seconds  
CPU ClockTime = 546.620000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	51.70817	78.91012	5.27934	56.98750	12.84454 ending at	12738.0 Sec
LPZ	4.26853	9.82789	0.67945	4.94798		
ContolRoom	1.23996	26.88529	1.69010	2.93006		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	3.323386E-004	8.089625E-005	5.393083E-005	4.258730E-007	0.000000E+000	0.000000E+000	1.387930E-014
Co-60	4.130588E-004	1.005434E-004	6.702893E-005	5.293109E-007	0.000000E+000	0.000000E+000	1.725036E-014
Br-82E	2.425587E+000	1.582823E+000	1.055216E+000	3.439903E-003	0.000000E+000	0.000000E+000	8.990389E-009
Br-82O	1.182629E+001	2.312941E+001	1.541962E+001	2.192221E-002	0.000000E+000	0.000000E+000	5.728537E-008
Br-82P	6.778987E-003	1.653164E-003	1.102110E-003	8.687927E-006	0.000000E+000	0.000000E+000	2.831437E-013
Kr-85	3.548802E+005	6.662755E+005	4.441837E+005	6.485500E+002	0.000000E+000	0.000000E+000	1.653410E-001
Kr-85m	2.938952E+000	5.547292E+000	3.698211E+000	5.380889E-003	0.000000E+000	0.000000E+000	1.371871E-006
Kr-88	1.354668E-003	2.564833E-003	1.709900E-003	2.482890E-006	0.000000E+000	0.000000E+000	6.330376E-010
Rb-86	1.245470E-002	3.036216E-003	2.024144E-003	1.596151E-005	0.000000E+000	0.000000E+000	5.201893E-013
Sr-89	4.784269E-001	1.164570E-001	7.763800E-002	6.130771E-004	0.000000E+000	0.000000E+000	1.998032E-011
Sr-90	5.696547E-002	1.386606E-002	9.244042E-003	7.299794E-005	0.000000E+000	0.000000E+000	2.379019E-012
Sr-91	5.902206E-004	1.440281E-004	9.601896E-005	7.564609E-007	0.000000E+000	0.000000E+000	2.465395E-014
Y-90	2.080440E-004	5.065922E-005	3.377282E-005	2.666030E-007	0.000000E+000	0.000000E+000	8.688687E-015
Y-91	6.139545E-003	1.494462E-003	9.963084E-004	7.867479E-006	0.000000E+000	0.000000E+000	2.564029E-013
Y-93	1.138499E-005	2.777734E-006	1.851826E-006	1.459149E-008	0.000000E+000	0.000000E+000	4.755528E-016
Zr-95	8.069516E-003	1.964245E-003	1.309497E-003	1.034063E-005	0.000000E+000	0.000000E+000	3.370034E-013
Zr-97	1.577737E-004	3.845859E-005	2.563909E-005	2.021971E-007	0.000000E+000	0.000000E+000	6.589757E-015
Nb-95	7.809322E-003	1.900934E-003	1.267290E-003	1.000721E-005	0.000000E+000	0.000000E+000	3.261373E-013
Mo-99	4.232372E-002	1.030582E-002	6.870548E-003	5.423670E-005	0.000000E+000	0.000000E+000	1.767593E-012
Tc-99m	1.574570E-006	3.847944E-007	2.565304E-007	2.018258E-009	0.000000E+000	0.000000E+000	6.577850E-017
Ru-103	9.518219E-002	2.316905E-002	1.544603E-002	1.219707E-004	0.000000E+000	0.000000E+000	3.975052E-012
Ru-106	4.415486E-002	1.074784E-002	7.165226E-003	5.658190E-005	0.000000E+000	0.000000E+000	1.844017E-012
Rh-105	1.064355E-002	2.592512E-003	1.728342E-003	1.363970E-005	0.000000E+000	0.000000E+000	4.445244E-013
Sb-125	2.504407E-002	6.096026E-003	4.064018E-003	3.209253E-005	0.000000E+000	0.000000E+000	1.045903E-012
Sb-127	4.904759E-001	1.194185E-001	7.961235E-002	6.285272E-004	0.000000E+000	0.000000E+000	2.048390E-011
Te-127	1.223637E-004	2.986050E-005	1.990704E-005	1.568287E-007	0.000000E+000	0.000000E+000	5.111231E-015
Te-127m	1.893787E-002	4.609742E-003	3.073161E-003	2.426780E-005	0.000000E+000	0.000000E+000	7.908930E-013
Te-129m	8.283623E-002	2.016390E-002	1.344260E-002	1.061500E-004	0.000000E+000	0.000000E+000	3.459454E-012
Te-131m	2.363300E-002	5.756790E-003	3.837863E-003	3.028582E-005	0.000000E+000	0.000000E+000	9.870299E-013
Te-132	7.545371E-001	1.837192E-001	1.224795E-001	9.669151E-004	0.000000E+000	0.000000E+000	3.151209E-011
I-131E	1.600510E+003	1.043846E+003	6.958974E+002	2.269606E+000	0.000000E+000	0.000000E+000	5.931713E-006
I-131O	7.803490E+003	1.525333E+004	1.016889E+004	1.446238E+001	0.000000E+000	0.000000E+000	3.779174E-005
I-131P	4.473075E+000	1.090228E+000	7.268186E-001	5.732466E-003	0.000000E+000	0.000000E+000	1.868226E-010
I-133E	1.841846E+002	1.202462E+002	8.016418E+001	2.612247E-001	0.000000E+000	0.000000E+000	6.827297E-007
I-133O	8.980193E+002	1.757143E+003	1.171429E+003	1.664923E+000	0.000000E+000	0.000000E+000	4.350664E-006
I-133P	5.147558E-001	1.255906E-001	8.372715E-002	6.597302E-004	0.000000E+000	0.000000E+000	2.150104E-011
I-135E	1.680953E-001	1.100123E-001	7.334175E-002	2.384976E-004	0.000000E+000	0.000000E+000	6.233477E-010
I-135O	8.195821E-001	1.607664E+000	1.071779E+000	1.520842E-003	0.000000E+000	0.000000E+000	3.974255E-009

I-135P	4.697902E-004	1.149052E-004	7.660370E-005	6.022012E-007	0.000000E+000	0.000000E+000	1.962670E-014
Xe-133	2.925600E+007	5.493757E+007	3.662505E+007	5.346936E+004	0.000000E+000	0.000000E+000	1.363148E+001
Xe-135	1.312197E+004	2.470083E+004	1.646726E+004	2.400238E+001	0.000000E+000	0.000000E+000	6.119308E-003
Cs-134	1.599550E+000	3.899192E-001	2.599461E-001	2.049920E-003	0.000000E+000	0.000000E+000	6.680735E-011
Cs-136	3.815073E-001	9.300623E-002	6.200415E-002	4.889273E-004	0.000000E+000	0.000000E+000	1.593426E-011
Cs-137	8.221072E-001	2.004033E-001	1.336022E-001	1.053580E-003	0.000000E+000	0.000000E+000	3.433641E-011
Ba-140	7.167794E-001	1.744861E-001	1.163241E-001	9.185159E-004	0.000000E+000	0.000000E+000	2.993466E-011
La-140	1.755321E-003	4.275191E-004	2.850128E-004	2.249431E-006	0.000000E+000	0.000000E+000	7.330997E-014
Ce-141	1.896182E-002	4.615670E-003	3.077113E-003	2.429852E-005	0.000000E+000	0.000000E+000	7.918944E-013
Ce-143	2.638458E-003	6.426946E-004	4.284633E-004	3.381194E-006	0.000000E+000	0.000000E+000	1.101948E-013
Ce-144	1.600517E-002	3.895859E-003	2.597240E-003	2.050970E-005	0.000000E+000	0.000000E+000	6.684157E-013
Pr-143	6.283868E-003	1.529679E-003	1.019786E-003	8.052451E-006	0.000000E+000	0.000000E+000	2.624314E-013
Nd-147	2.675892E-003	6.514024E-004	4.342683E-004	3.429021E-006	0.000000E+000	0.000000E+000	1.117527E-013
Np-238	1.927035E-003	4.692834E-004	3.128557E-004	2.469461E-006	0.000000E+000	0.000000E+000	8.048072E-014
Np-239	9.147456E-002	2.227539E-002	1.485026E-002	1.172226E-004	0.000000E+000	0.000000E+000	3.820331E-012
Pu-238	8.566201E-005	2.085114E-005	1.390076E-005	1.097709E-007	0.000000E+000	0.000000E+000	3.577457E-015
Pu-239	6.175430E-006	1.503172E-006	1.002115E-006	7.913455E-009	0.000000E+000	0.000000E+000	2.579012E-016
Pu-240	9.353554E-006	2.276764E-006	1.517843E-006	1.198604E-008	0.000000E+000	0.000000E+000	3.906275E-016
Pu-241	2.507729E-003	6.104107E-004	4.069405E-004	3.213509E-006	0.000000E+000	0.000000E+000	1.047290E-013
Am-241	1.289314E-006	3.138340E-007	2.092227E-007	1.652180E-009	0.000000E+000	0.000000E+000	5.384492E-017
Cm-242	3.856002E-004	9.386018E-005	6.257345E-005	4.941245E-007	0.000000E+000	0.000000E+000	1.610363E-014
Cm-244	8.275042E-005	2.014242E-005	1.342828E-005	1.060399E-007	0.000000E+000	0.000000E+000	3.455862E-015

Time = 2592000.000000 Seconds

CPU ClockTime = 4092.720000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	66.18676	83.14073	5.40838	71.59513	12.84454 ending at	12738.0 Sec
LPZ	4.43745	9.86032	0.68044	5.11789		
ContolRoom	1.31219	27.25380	1.70132	3.01351		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	Turb_Bldg	ContolRoom
Co-58	1.755825E-004	5.965867E-005	3.977245E-005	1.449251E-007	0.000000E+000	0.000000E+000	3.836216E-015
Co-60	2.788647E-004	9.474502E-005	6.316334E-005	2.301727E-007	0.000000E+000	0.000000E+000	6.092748E-015
Br-82E	7.898494E-006	7.213769E-006	4.809182E-006	7.276259E-009	0.000000E+000	0.000000E+000	1.544621E-014
Br-82O	3.851020E-005	1.054131E-004	7.027543E-005	4.721200E-008	0.000000E+000	0.000000E+000	1.002109E-013
Kr-85	2.407314E+005	6.308493E+005	4.205662E+005	2.904324E+002	0.000000E+000	0.000000E+000	6.014295E-002
Rb-86	3.229347E-003	1.099076E-003	7.327174E-004	2.665794E-006	0.000000E+000	0.000000E+000	7.056452E-014
Sr-89	2.282124E-001	7.754326E-002	5.169550E-002	1.883660E-004	0.000000E+000	0.000000E+000	4.986112E-012
Sr-90	3.875461E-002	1.316696E-002	8.777970E-003	3.198774E-005	0.000000E+000	0.000000E+000	8.467264E-013
Y-91	3.074632E-003	1.044701E-003	6.964674E-004	2.537791E-006	0.000000E+000	0.000000E+000	6.717621E-014
Zr-95	4.149926E-003	1.410055E-003	9.400365E-004	3.425333E-006	0.000000E+000	0.000000E+000	9.066975E-014
Nb-95	3.178683E-003	1.080118E-003	7.200785E-004	2.623685E-006	0.000000E+000	0.000000E+000	6.944986E-014
Mo-99	4.087372E-005	1.391221E-005	9.274808E-006	3.374110E-008	0.000000E+000	0.000000E+000	8.931421E-016
Ru-103	4.099179E-002	1.392881E-002	9.285873E-003	3.383459E-005	0.000000E+000	0.000000E+000	8.956134E-013
Ru-106	2.866938E-002	9.740602E-003	6.493735E-003	2.366349E-005	0.000000E+000	0.000000E+000	6.263806E-013
Sb-125	1.676422E-002	5.695703E-003	3.797136E-003	1.383706E-005	0.000000E+000	0.000000E+000	3.662716E-013
Sb-127	3.060848E-003	1.041283E-003	6.941890E-004	2.526628E-006	0.000000E+000	0.000000E+000	6.688089E-014
Te-127m	1.093891E-002	3.716684E-003	2.477789E-003	9.028913E-006	0.000000E+000	0.000000E+000	2.389984E-013
Te-129m	3.301631E-002	1.121902E-002	7.479346E-003	7.725167E-005	0.000000E+000	0.000000E+000	7.213613E-013
Te-132	2.043035E-003	6.951902E-004	4.634603E-004	1.686485E-006	0.000000E+000	0.000000E+000	4.464197E-014
I-131E	1.159381E+002	1.055944E+002	7.039630E+001	1.067556E-001	0.000000E+000	0.000000E+000	2.266218E-007
I-131O	5.652712E+002	1.543012E+003	1.028675E+003	6.922829E-001	0.000000E+000	0.000000E+000	1.469414E-006
I-131P	3.240217E-001	1.102864E-001	7.352426E-002	2.674783E-004	0.000000E+000	0.000000E+000	7.080252E-012
I-133O	5.699457E-007	1.563802E-006	1.042536E-006	6.993502E-010	0.000000E+000	0.000000E+000	1.484428E-015
Xe-133	6.409991E+005	1.681372E+006	1.120915E+006	7.736061E+002	0.000000E+000	0.000000E+000	1.601992E-001
Cs-134	1.064311E+000	3.621131E-001	2.414221E-001	8.785628E-004	0.000000E+000	0.000000E+000	2.325585E-011
Cs-136	6.610143E-002	2.249948E-002	1.499965E-002	5.456651E-005	0.000000E+000	0.000000E+000	1.444395E-012
Cs-137	5.593276E-001	1.903106E-001	1.268738E-001	4.617109E-004	0.000000E+000	0.000000E+000	1.222164E-011
Ba-140	1.188416E-001	4.039248E-002	2.692832E-002	9.809356E-005	0.000000E+000	0.000000E+000	2.596572E-012
Ce-141	7.421712E-003	2.521928E-003	1.681285E-003	6.125886E-006	0.000000E+000	0.000000E+000	1.621543E-013
Ce-144	1.023782E-002	3.478378E-003	2.318919E-003	8.450222E-006	0.000000E+000	0.000000E+000	2.236802E-013
Pr-143	1.134761E-003	3.856791E-004	2.571194E-004	9.366462E-007	0.000000E+000	0.000000E+000	2.479337E-014
Nd-147	3.532605E-004	1.200756E-004	8.005037E-005	2.915876E-007	0.000000E+000	0.000000E+000	7.718430E-015
Np-239	2.959886E-005	1.007764E-005	6.718426E-006	2.443426E-008	0.000000E+000	0.000000E+000	6.467864E-016
Pu-238	5.834344E-005	1.982229E-005	1.321486E-005	4.815620E-008	0.000000E+000	0.000000E+000	1.274711E-015
Pu-239	4.208375E-006	1.429803E-006	9.532019E-007	3.473558E-009	0.000000E+000	0.000000E+000	9.194626E-017
Pu-240	6.374138E-006	2.165625E-006	1.443750E-006	5.261161E-009	0.000000E+000	0.000000E+000	1.392647E-016
Pu-241	1.703102E-003	5.786324E-004	3.857550E-004	1.405726E-006	0.000000E+000	0.000000E+000	3.721005E-014
Cm-242	2.352390E-004	7.992532E-005	5.328355E-005	1.941648E-007	0.000000E+000	0.000000E+000	5.139607E-015
Cm-244	5.623858E-005	1.910717E-005	1.273812E-005	4.641887E-008	0.000000E+000	0.000000E+000	1.228723E-015

CASE 1 - EAB DOSE (Rem TEDE)					
Time (Hrs)	ESF Leakage	MSIV Leakage	Containment Airborne	Total	Trailing 2-Hr Dose
0.00E+00	0.00E+00	0.000E+00	0.000E+00	0.000E+00	
1.00E-01	0.00E+00	3.222E-01	1.62E-05	3.222E-01	
2.00E-01	1.82E-06	1.228E+00	3.91E-05	1.228E+00	
3.00E-01	1.34E-05	2.637E+00	1.33E-04	2.637E+00	
4.00E-01	3.94E-05	2.637E+00	2.48E-03	2.640E+00	
5.00E-01	8.35E-05	2.637E+00	9.75E-03	2.647E+00	
6.00E-01	1.50E-04	2.637E+00	2.34E-02	2.661E+00	
7.00E-01	2.44E-04	2.637E+00	4.80E-02	2.685E+00	
8.00E-01	3.72E-04	2.637E+00	8.81E-02	2.725E+00	
9.00E-01	5.39E-04	2.637E+00	1.48E-01	2.785E+00	
1.00E+00	7.50E-04	2.637E+00	2.31E-01	2.869E+00	
1.10E+00	1.01E-03	2.637E+00	3.40E-01	2.978E+00	
1.20E+00	1.32E-03	2.637E+00	4.78E-01	3.116E+00	
1.30E+00	1.69E-03	2.637E+00	6.45E-01	3.284E+00	
1.40E+00	2.11E-03	2.637E+00	8.44E-01	3.483E+00	
1.50E+00	2.60E-03	2.637E+00	1.08E+00	3.716E+00	
1.60E+00	3.16E-03	2.637E+00	1.34E+00	3.980E+00	
1.70E+00	3.78E-03	2.637E+00	1.64E+00	4.280E+00	
1.80E+00	4.47E-03	2.637E+00	1.97E+00	4.612E+00	
1.90E+00	5.23E-03	2.637E+00	2.34E+00	4.979E+00	
2.00E+00	6.07E-03	2.637E+00	2.74E+00	5.380E+00	5.380E+00
2.10E+00	6.98E-03	2.637E+00	3.16E+00	5.804E+00	5.482E+00
2.20E+00	7.96E-03	2.637E+00	3.60E+00	6.243E+00	5.015E+00
2.30E+00	9.00E-03	2.637E+00	4.04E+00	6.690E+00	4.053E+00
2.40E+00	1.01E-02	2.637E+00	4.50E+00	7.144E+00	4.505E+00
2.50E+00	1.13E-02	2.637E+00	4.96E+00	7.603E+00	4.956E+00
2.60E+00	1.25E-02	2.637E+00	5.41E+00	8.063E+00	5.403E+00
2.70E+00	1.37E-02	2.637E+00	5.87E+00	8.525E+00	5.839E+00
2.80E+00	1.50E-02	2.637E+00	6.33E+00	8.984E+00	6.258E+00
2.90E+00	1.63E-02	2.637E+00	6.79E+00	9.442E+00	6.657E+00
3.00E+00	1.77E-02	2.637E+00	7.24E+00	9.897E+00	7.028E+00
3.10E+00	1.90E-02	2.637E+00	7.69E+00	1.035E+01	7.370E+00
3.20E+00	2.05E-02	2.637E+00	8.14E+00	1.079E+01	7.679E+00
3.30E+00	2.19E-02	2.637E+00	8.58E+00	1.124E+01	7.952E+00
3.40E+00	2.33E-02	2.637E+00	9.01E+00	1.167E+01	8.188E+00
3.50E+00	2.48E-02	2.637E+00	9.44E+00	1.210E+01	8.386E+00
3.60E+00	2.63E-02	2.637E+00	9.86E+00	1.253E+01	8.545E+00
3.70E+00	2.78E-02	2.637E+00	1.03E+01	1.294E+01	8.665E+00
3.80E+00	2.94E-02	2.637E+00	1.07E+01	1.336E+01	8.744E+00
3.90E+00	3.09E-02	2.637E+00	1.11E+01	1.376E+01	8.779E+00
4.00E+00	3.24E-02	2.637E+00	1.15E+01	1.416E+01	8.779E+00
4.10E+00	3.40E-02	2.637E+00	1.19E+01	1.455E+01	8.747E+00
4.20E+00	3.56E-02	2.637E+00	1.23E+01	1.493E+01	8.690E+00
4.30E+00	3.72E-02	2.637E+00	1.26E+01	1.530E+01	8.614E+00
4.40E+00	3.88E-02	2.637E+00	1.30E+01	1.568E+01	8.532E+00

CASE 1 - EAB DOSE (Rem TEDE)					
Time (Hrs)	ESF Leakage	MSIV Leakage	Containment Airborne	Total	Trailing 2-Hr Dose
4.50E+00	4.04E-02	2.637E+00	1.34E+01	1.604E+01	8.434E+00
4.60E+00	4.20E-02	2.637E+00	1.37E+01	1.640E+01	8.335E+00
4.70E+00	4.36E-02	2.637E+00	1.41E+01	1.675E+01	8.226E+00
4.80E+00	4.52E-02	2.637E+00	1.44E+01	1.709E+01	8.108E+00
4.90E+00	4.68E-02	2.637E+00	1.47E+01	1.742E+01	7.981E+00
5.00E+00	4.84E-02	2.637E+00	1.51E+01	1.776E+01	7.859E+00
5.10E+00	5.00E-02	2.637E+00	1.54E+01	1.808E+01	7.729E+00
5.20E+00	5.17E-02	2.637E+00	1.57E+01	1.840E+01	7.604E+00
5.30E+00	5.33E-02	2.637E+00	1.60E+01	1.871E+01	7.474E+00
5.40E+00	5.49E-02	2.637E+00	1.63E+01	1.901E+01	7.341E+00
5.50E+00	5.66E-02	2.637E+00	1.66E+01	1.931E+01	7.212E+00
5.60E+00	5.82E-02	2.637E+00	1.69E+01	1.961E+01	7.080E+00
5.70E+00	5.98E-02	2.637E+00	1.72E+01	1.990E+01	6.952E+00
5.80E+00	6.15E-02	2.637E+00	1.75E+01	2.018E+01	6.822E+00
5.90E+00	6.31E-02	2.637E+00	1.78E+01	2.046E+01	6.702E+00
6.00E+00	6.47E-02	2.637E+00	1.80E+01	2.073E+01	6.572E+00

CASE 2- EAB DOSE (Rem TEDE)					
Time (Hrs)	ESF Leakage	MSIV Leakage	Containment Airborne	Total	Trailing 2-Hr Dose
0.00E+00	0.00E+00	0.000E+00	0.000E+00	0.000E+00	
1.00E-01	0.00E+00	0.000E+00	1.62E-05	1.619E-05	
2.00E-01	1.82E-06	0.000E+00	3.91E-05	4.087E-05	
3.00E-01	1.34E-05	0.000E+00	1.33E-04	1.463E-04	
4.00E-01	3.94E-05	0.000E+00	1.85E-02	1.851E-02	
5.00E-01	8.35E-05	0.000E+00	4.67E-02	4.675E-02	
6.00E-01	1.50E-04	0.000E+00	8.77E-02	8.782E-02	
7.00E-01	2.44E-04	0.000E+00	1.52E-01	1.519E-01	
8.00E-01	3.72E-04	0.000E+00	2.49E-01	2.493E-01	
9.00E-01	5.39E-04	0.000E+00	3.88E-01	3.880E-01	
1.00E+00	7.50E-04	0.000E+00	5.74E-01	5.747E-01	
1.10E+00	1.01E-03	0.000E+00	8.13E-01	8.140E-01	
1.20E+00	1.32E-03	0.000E+00	1.11E+00	1.108E+00	
1.30E+00	1.69E-03	0.000E+00	1.46E+00	1.461E+00	
1.40E+00	2.11E-03	0.000E+00	1.87E+00	1.870E+00	
1.50E+00	2.60E-03	0.000E+00	2.34E+00	2.338E+00	
1.60E+00	3.16E-03	0.000E+00	2.86E+00	2.863E+00	
1.70E+00	3.78E-03	0.000E+00	3.44E+00	3.446E+00	
1.80E+00	4.47E-03	0.000E+00	4.08E+00	4.083E+00	
1.90E+00	5.23E-03	0.000E+00	4.77E+00	4.773E+00	
2.00E+00	6.07E-03	0.000E+00	5.51E+00	5.515E+00	5.515E+00
2.10E+00	6.98E-03	0.000E+00	6.27E+00	6.277E+00	6.277E+00
2.20E+00	7.96E-03	0.000E+00	7.02E+00	7.029E+00	7.029E+00
2.30E+00	9.00E-03	0.000E+00	7.76E+00	7.769E+00	7.769E+00
2.40E+00	1.01E-02	0.000E+00	8.49E+00	8.495E+00	8.477E+00
2.50E+00	1.13E-02	0.000E+00	9.20E+00	9.206E+00	9.160E+00
2.60E+00	1.25E-02	0.000E+00	9.89E+00	9.902E+00	9.815E+00
2.70E+00	1.37E-02	0.000E+00	1.06E+01	1.058E+01	1.043E+01
2.80E+00	1.50E-02	0.000E+00	1.12E+01	1.124E+01	1.100E+01
2.90E+00	1.63E-02	0.000E+00	1.19E+01	1.190E+01	1.151E+01
3.00E+00	1.77E-02	0.000E+00	1.25E+01	1.253E+01	1.195E+01
3.10E+00	1.90E-02	0.000E+00	1.31E+01	1.314E+01	1.233E+01
3.20E+00	2.05E-02	0.000E+00	1.37E+01	1.374E+01	1.263E+01
3.30E+00	2.19E-02	0.000E+00	1.43E+01	1.433E+01	1.287E+01
3.40E+00	2.33E-02	0.000E+00	1.49E+01	1.489E+01	1.302E+01
3.50E+00	2.48E-02	0.000E+00	1.54E+01	1.545E+01	1.312E+01
3.60E+00	2.63E-02	0.000E+00	1.60E+01	1.599E+01	1.312E+01
3.70E+00	2.78E-02	0.000E+00	1.65E+01	1.652E+01	1.307E+01
3.80E+00	2.94E-02	0.000E+00	1.70E+01	1.703E+01	1.295E+01
3.90E+00	3.09E-02	0.000E+00	1.75E+01	1.753E+01	1.276E+01
4.00E+00	3.24E-02	0.000E+00	1.80E+01	1.801E+01	1.250E+01
4.10E+00	3.40E-02	0.000E+00	1.85E+01	1.848E+01	1.221E+01
4.20E+00	3.56E-02	0.000E+00	1.89E+01	1.895E+01	1.192E+01
4.30E+00	3.72E-02	0.000E+00	1.94E+01	1.940E+01	1.163E+01
4.40E+00	3.88E-02	0.000E+00	1.98E+01	1.983E+01	1.133E+01

CASE 2- EAB DOSE (Rem TEDE)					
Time (Hrs)	ESF Leakage	MSIV Leakage	Containment Airborne	Total	Trailing 2-Hr Dose
4.50E+00	4.04E-02	0.000E+00	2.02E+01	2.026E+01	1.105E+01
4.60E+00	4.20E-02	0.000E+00	2.06E+01	2.067E+01	1.077E+01
4.70E+00	4.36E-02	0.000E+00	2.10E+01	2.107E+01	1.049E+01
4.80E+00	4.52E-02	0.000E+00	2.14E+01	2.147E+01	1.022E+01
4.90E+00	4.68E-02	0.000E+00	2.18E+01	2.186E+01	9.960E+00
5.00E+00	4.84E-02	0.000E+00	2.22E+01	2.223E+01	9.701E+00
5.10E+00	5.00E-02	0.000E+00	2.25E+01	2.259E+01	9.451E+00
5.20E+00	5.17E-02	0.000E+00	2.29E+01	2.295E+01	9.211E+00
5.30E+00	5.33E-02	0.000E+00	2.33E+01	2.330E+01	8.971E+00
5.40E+00	5.49E-02	0.000E+00	2.36E+01	2.363E+01	8.742E+00
5.50E+00	5.66E-02	0.000E+00	2.39E+01	2.398E+01	8.522E+00
5.60E+00	5.82E-02	0.000E+00	2.42E+01	2.430E+01	8.312E+00
5.70E+00	5.98E-02	0.000E+00	2.46E+01	2.461E+01	8.092E+00
5.80E+00	6.15E-02	0.000E+00	2.49E+01	2.492E+01	7.892E+00
5.90E+00	6.31E-02	0.000E+00	2.52E+01	2.522E+01	7.692E+00
6.00E+00	6.47E-02	0.000E+00	2.55E+01	2.552E+01	7.512E+00

## CUMULATIVE RAPTOR BENCHMARK (CASE 1)

```
RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR  RR  AA  AA  AA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AAA  AAA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  PP  TT  OO  OO  RR  RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT  OO  2.10B  OO  RRRRRRRR
RRRRRRR      AAAAAAAAAA      PPPPPP      TT  OO  OO  RRRRRR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OOOOOOO      RR  RR
RR      RR  AA  AA  PP  TT      OOO      RR  RR
```

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IIIIIIIIII NN      NN PPPPPP UU      UU TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPPP UU      UU TTTTTTTTTT
II      NNNN      NN PP  PP  UU      UU  TT
II      NN NN      NN PP  PP  UU      UU  TT
II      NN NN      NN PPPPPPPP UU      UU  TT
II      NN NN      NN PPPPPP  UU      UU  TT
II      NN      NN PP  UU      UU  TT
II      NN      NN PP  UUU      UUU  TT
IIIIIIIIII NN      NNN PP      UUUUUUUU  TT
IIIIIIIIII NN      NN PP      UU      TT
```

Execution Time: 20:53:00 on 10/15/00

### MODELED NUCLIDE PARAMETERS

Isotope	Group	Half-Life	Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Co-58	Noble Mtls	7.0800E+001 Dys	1.7612E-001	3.2264E+003	1.0878E+004
Co-60	Noble Mtls	5.2696E+000 Yrs	4.6620E-001	5.9940E+004	2.1867E+005
Br-82	Halogens	1.4710E+000 Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000 Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001 Min	3.4817E-001	5.2910E+000	8.3990E+001
Kr-85	Noble Gas	1.0730E+001 Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000 Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000 Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000 Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001 Dys	1.7797E-002	4.9210E+003	6.6230E+003
Sr-89	Stront/Bar	5.0520E+001 Dys	2.8601E-004	2.9452E+001	4.1440E+004
Sr-90	Stront/Bar	2.9100E+001 Yrs	2.7861E-005	9.9530E+002	1.2987E+006
Sr-91	Stront/Bar	9.5000E+000 Hrs	1.8219E-001	3.6741E+001	1.6824E+003
Sr-92	Stront/Bar	2.7100E+000 Hrs	2.5123E-001	1.4504E+001	8.0660E+002
Y-90	Lanthanum	2.6700E+000 Dys	7.0300E-004	1.9129E+000	8.4360E+003
Y-91	Lanthanum	5.8500E+001 Dys	9.6200E-004	3.1450E+001	4.8840E+004
Y-92	Lanthanum	3.5400E+000 Hrs	4.8100E-002	3.8850E+000	7.8070E+002
Y-93	Lanthanum	1.0200E+001 Hrs	1.7760E-002	3.4262E+000	2.1534E+003
Zr-95	Lanthanum	6.4020E+001 Dys	1.3320E-001	5.3280E+003	2.3643E+004
Zr-97	Lanthanum	1.6800E+001 Hrs	1.6398E-001	8.5655E+001	4.3327E+003
Nb-95	Lanthanum	3.4970E+001 Dys	1.3838E-001	1.3246E+003	5.8090E+003
Mo-99	Noble Mtls	2.7476E+000 Dys	2.6936E-002	5.6240E+001	3.9590E+003
Tc-99m	Noble Mtls	6.0100E+000 Hrs	2.1793E-002	1.8537E+002	3.2560E+001
Ru-103	Noble Mtls	3.9270E+001 Dys	8.3287E-002	9.5090E+002	8.9577E+003
Ru-105	Noble Mtls	4.4400E+000 Hrs	1.4097E-001	1.5355E+001	4.5510E+002
Ru-106	Noble Mtls	1.0200E+000 Yrs	3.8480E-002	6.3640E+003	4.7730E+005
Rh-105	Noble Mtls	3.5400E+001 Hrs	1.3764E-002	1.0656E+001	9.5460E+002
Sb-125	Tellurium	2.7580E+000 Yrs	7.4740E-002	1.1988E+003	1.2210E+004
Sb-127	Tellurium	3.8400E+000 Dys	1.2321E-001	2.2755E+002	6.0310E+003
Sb-129	Tellurium	4.4000E+000 Hrs	2.6418E-001	3.5964E+001	6.4380E+002
Te-127	Tellurium	9.4000E+000 Hrs	8.9540E-004	6.8080E+000	3.1820E+002
Te-127m	Tellurium	1.0900E+002 Dys	5.4390E-004	3.5742E+002	2.1497E+004
Te-129	Tellurium	1.1600E+000 Hrs	1.0175E-002	1.8834E+000	7.7330E+001
Te-129m	Tellurium	3.3600E+001 Dys	4.5826E+000	1.4244E+003	5.8724E+004
Te-131m	Tellurium	1.3500E+000 Dys	1.5619E+000	4.8335E+005	1.9773E+004
Te-132	Tellurium	3.2600E+000 Dys	1.4251E+001	4.5317E+005	2.2506E+004
Te-133m	Tellurium	5.5400E+001 Min	5.2469E-001	1.8973E+004	7.1746E+005
Te-134	Tellurium	4.2000E+001 Min	5.4168E-001	2.9097E+003	2.2459E+002
I-131	Halogens	8.0400E+000 Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000 Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001 Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001 Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000 Hrs	3.0688E-001	3.1302E+004	1.2284E+003
Xe-133	Noble Gas	5.2430E+000 Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000 Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Cs-134	Cesiums	2.0650E+000 Yrs	2.8009E-001	4.1070E+004	4.6250E+004
Cs-136	Cesiums	1.3160E+001 Dys	3.9220E-001	6.4010E+003	7.3260E+003
Cs-137	Cesiums	3.0170E+001 Yrs	1.0082E-001	2.9341E+004	3.1931E+004
Cs-138	Cesiums	3.2200E+001 Min	4.4770E-001	1.3209E+001	1.0138E+002
Ba-139	Stront/Bar	1.3960E+000 Hrs	8.0290E-003	8.8800E+000	1.7168E+002
Ba-140	Stront/Bar	1.2750E+001 Dys	3.1746E-002	9.4720E+002	3.7370E+003
La-140	Lanthanum	1.6780E+000 Dys	4.3290E-001	2.5419E+002	4.8470E+003
La-141	Lanthanum	3.9000E+000 Hrs	8.8430E-003	3.4780E+001	5.8090E+002
La-142	Lanthanum	1.5400E+000 Hrs	5.3280E-001	3.2338E+001	2.5308E+002
Ce-141	Cerium	3.2500E+001 Dys	1.2691E-002	9.4350E+001	8.9540E+003
Ce-143	Cerium	1.3800E+000 Dys	4.7730E-002	2.3051E+001	3.3892E+003
Ce-144	Cerium	2.8460E+002 Dys	1.0260E-002	1.0804E+003	3.7370E+005
Pr-143	Lanthanum	1.3570E+001 Dys	7.7700E-005	6.2160E-006	8.1030E+003
Nd-147	Lanthanum	1.0980E+001 Dys	2.2903E-002	6.7340E+001	6.8450E+003
Np-238	Cerium	2.1170E+000 Dys	1.0064E-001	9.0650E+001	3.7000E+004
Np-239	Cerium	2.3550E+000 Dys	2.8453E-002	2.8194E+001	2.5086E+003
Pu-238	Cerium	8.7700E+001 Yrs	1.8056E-005	1.4282E+003	2.8823E+008
Pu-239	Cerium	2.4100E+004 Yrs	1.5688E-005	1.3875E+003	3.0821E+008
Pu-240	Cerium	6.5600E+003 Yrs	1.7575E-005	1.3912E+003	3.0821E+008
Pu-241	Cerium	1.4400E+001 Yrs	2.6825E-007	3.3855E+001	4.9580E+006
Am-241	Lanthanum	4.3270E+002 Yrs	3.0266E-003	5.9200E+003	4.4400E+008
Cm-242	Lanthanum	1.6280E+002 Dys	2.1053E-005	3.4817E+003	1.7279E+007
Cm-244	Lanthanum	1.8100E+001 Yrs	1.8167E-005	3.7370E+003	2.4790E+008

### MODEL PARAMETERS

Core Power Level = 3910.00 MW

Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

#### NODE PARAMETERS

Name	Volume (cu.ft.)	Inventory Tracked?
Drywell	2.7000E+005	Yes
Sprayed	8.4000E+005	Yes
Unsprayed	5.6000E+005	Yes
SecCont	3.0000E+005	Yes
MSIVVol	4.3370E+002	Yes
SuppPool	1.7090E+005	Yes
ControlRoom	2.5300E+005	Yes
OutOfCR	1.0000E+000	No

#### RELEASE POINTS

Name  
Encl\_Bldg\_Vent  
SGTS\_Vent  
TurbBldg\_Vent

#### RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

#### INITIAL INVENTORIES

Co-58	In Core	at 1.5290E+002 Ci/MW				
Co-60	In Core	at 1.8300E+002 Ci/MW				
Br-82	In Core	at 1.9500E+002 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Br-83	In Core	at 3.5220E+003 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Br-84	In Core	at 6.1990E+003 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Kr-85	In Core	at 3.8800E+002 Ci/MW				
Kr-85m	In Core	at 9.1100E+003 Ci/MW				
Kr-87	In Core	at 1.6570E+004 Ci/MW				
Kr-88	In Core	at 2.2360E+004 Ci/MW				
Rb-86	In Core	at 7.3760E+001 Ci/MW				
Sr-89	In Core	at 2.7950E+004 Ci/MW				
Sr-90	In Core	at 3.1510E+003 Ci/MW				
Sr-91	In Core	at 3.6040E+004 Ci/MW				
Sr-92	In Core	at 3.7650E+004 Ci/MW				
Y-90	In Core	at 3.2510E+003 Ci/MW				
Y-91	In Core	at 3.5600E+004 Ci/MW				
Y-92	In Core	at 3.7800E+004 Ci/MW				
Y-93	In Core	at 4.2980E+004 Ci/MW				
Zr-95	In Core	at 4.6600E+004 Ci/MW				
Zr-97	In Core	at 4.5870E+004 Ci/MW				
Nb-95	In Core	at 4.6750E+004 Ci/MW				
Mo-99	In Core	at 5.1380E+004 Ci/MW				
Tc-99m	In Core	at 4.4990E+004 Ci/MW				
Ru-103	In Core	at 4.5190E+004 Ci/MW				
Ru-105	In Core	at 3.3040E+004 Ci/MW				
Ru-106	In Core	at 1.9680E+004 Ci/MW				
Rh-105	In Core	at 3.0870E+004 Ci/MW				
Sb-125	In Core	at 5.5550E+002 Ci/MW				
Sb-127	In Core	at 2.2340E+004 Ci/MW				
Sb-129	In Core	at 9.3090E+003 Ci/MW				
Te-127	In Core	at 3.2200E+003 Ci/MW				
Te-127m	In Core	at 4.2970E+002 Ci/MW				
Te-129	In Core	at 9.1610E+003 Ci/MW				
Te-129m	In Core	at 1.9900E+003 Ci/MW				
Te-131m	In Core	at 4.0790E+003 Ci/MW				
Te-132	In Core	at 3.9080E+004 Ci/MW				
Te-133m	In Core	at 2.0680E+004 Ci/MW				
Te-134	In Core	at 4.6880E+004 Ci/MW				
I-131	In Core	at 2.7570E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-132	In Core	at 3.9770E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-133	In Core	at 5.5140E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-134	In Core	at 6.0740E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-135	In Core	at 5.1530E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Xe-133	In Core	at 5.4250E+004 Ci/MW				
Xe-135	In Core	at 2.1540E+004 Ci/MW				
Cs-134	In Core	at 8.1940E+003 Ci/MW				
Cs-136	In Core	at 2.4040E+003 Ci/MW				
Cs-137	In Core	at 4.1970E+003 Ci/MW				
Cs-138	In Core	at 5.1020E+004 Ci/MW				
Ba-139	In Core	at 4.9940E+004 Ci/MW				
Ba-140	In Core	at 4.9270E+004 Ci/MW				
La-140	In Core	at 5.0690E+004 Ci/MW				
La-141	In Core	at 4.6420E+004 Ci/MW				
La-142	In Core	at 4.4660E+004 Ci/MW				
Ce-141	In Core	at 4.5680E+004 Ci/MW				
Ce-143	In Core	at 4.3550E+004 Ci/MW				
Ce-144	In Core	at 3.5750E+004 Ci/MW				
Pr-143	In Core	at 4.2630E+004 Ci/MW				
Nd-147	In Core	at 1.9050E+004 Ci/MW				
Np-238	In Core	at 1.5800E+004 Ci/MW				
Np-239	In Core	at 6.5700E+005 Ci/MW				
Pu-238	In Core	at 1.8950E+002 Ci/MW				
Pu-239	In Core	at 1.3660E+001 Ci/MW				
Pu-240	In Core	at 2.0690E+001 Ci/MW				
Pu-241	In Core	at 5.5500E+003 Ci/MW				
Am-241	In Core	at 7.1300E+000 Ci/MW				
Cm-242	In Core	at 2.1690E+003 Ci/MW				
Cm-244	In Core	at 4.5780E+002 Ci/MW				

#### RELEASE PARAMETERS

0.000E+000	Sec to	5.000E-001	Hrs	: Noble Gas	Into Drywell	at 5.0000E+000	percent
0.000E+000	Sec to	5.000E-001	Hrs	: Halogens	Into Drywell	at 5.0000E+000	percent
0.000E+000	Sec to	5.000E-001	Hrs	: Cesiums	Into Drywell	at 5.0000E+000	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Noble Gas	Into Drywell	at 9.5000E+001	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Halogens	Into Drywell	at 2.5000E+001	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Cesiums	Into Drywell	at 2.0000E+001	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Tellurium	Into Drywell	at 5.0000E+000	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Stront/Bar	Into Drywell	at 2.0000E+000	percent
5.000E-001	Hrs to	2.000E+000	Hrs	: Noble Mtls	Into Drywell	at 2.5000E-001	percent

5.000E-001 Hrs to 2.000E+000 Hrs	: Lanthanum	Into Drywell	at 2.0000E-002 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Cerium	Into Drywell	at 5.0000E-002 percent
0.000E+000 Sec to 5.000E-001 Hrs	: Halogens	Into SuppPool	at 1.0000E+001 percent
5.000E-001 Hrs to 2.000E+000 Hrs	: Halogens	Into SuppPool	at 5.0000E+001 percent

#### FLOW PARAMETERS

Flow#1 from Drywell to TurbBldg\_Vent  
0.000E+000 Sec to 1.800E+001 Min at 1.7267E+000 cfm

Flow#2 from Drywell to MSIVVol  
0.000E+000 Sec to 1.000E+000 Dys at 1.3810E+000 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 8.8500E-001 percent per day

Flow#3 from Drywell to Unsprayed  
0.000E+000 Sec to 2.000E+000 Hrs at 1.6000E+003 percent per day  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#4 from Unsprayed to Drywell  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#5 from Sprayed to Unsprayed  
0.000E+000 Sec to 3.000E+001 Min at 3.2000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.2000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 3.2000E+003 percent per day

Flow#6 from Unsprayed to Sprayed  
0.000E+000 Sec to 3.000E+001 Min at 4.8000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.8000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 4.8000E+003 percent per day

Flow#7 from Sprayed to SecCont  
1.000E+000 Min to 1.000E+000 Dys at 3.8500E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#8 from Unsprayed to SecCont  
1.000E+000 Min to 1.000E+000 Dys at 3.8500E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#9 from Sprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#10 from SecCont to SGTS\_Vent  
1.000E+000 Min to 3.000E+001 Dys at 4.0010E+003 cfm

Flow#11 from MSIVVol to SecCont  
1.800E+001 Min to 1.000E+000 Dys at 8.6000E+002 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 5.5080E+002 percent per day

Flow#12 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 1.800E+001 Min at 2.0000E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0000E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0000E+003 cfm

Flow#13 from ControlRoom to OutofCR  
0.000E+000 Sec to 1.800E+001 Min at 2.0100E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0100E+003 cfm

Flow#14 from Drywell to SecCont  
1.800E+001 Min to 1.000E+000 Dys at 9.2090E-001 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 5.9000E-001 percent per day

Flow#15 from Unsprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#16 from ControlRoom to ControlRoom  
1.800E+001 Min to 3.000E+000 Dys at 4.0000E+003 cfm

Flow#17 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 3.000E+001 Dys at 1.0000E+001 cfm

Flow#18 from SuppPool to SecCont  
1.000E+001 Min to 3.000E+001 Dys at 1.5000E-001 cfm

#### FILTER PARAMETERS

SGTS\_Filter on Flow#10 is Not Tracked  
1.000E+000 Min to 3.000E+001 Dys for Elemental Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Organic Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Particulate Species of All Groups at 0.989750

CRFAS\_HEPA on Flow#16 is Not Tracked  
1.800E+001 Min to 3.000E+000 Dys for Particulate Species of All Groups at 0.990000

CRFAS\_HEPA on Flow#12 is Not Tracked  
3.000E+000 Dys to 3.000E+001 Dys for Particulate Species of All Groups at 0.990000

SuppPool\_Flash on Flow#18 is Not Tracked  
1.000E+001 Min to 3.000E+001 Dys for Particulate Species of All Groups at 1.000000

#### REMOVAL PARAMETERS

Drywell\_Dep from Drywell  
0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 0.86600 1/hr

Containment\_Spray from Sprayed  
0.000E+000 Sec to 3.000E+001 Min for Halogens Elemental at 0.68230 1/hr  
3.000E+001 Min to 2.800E+000 Hrs for Halogens Elemental at 20.68000 1/hr

3.000E+001 Min to 3.000E+000 Hrs for All Groups Particulate at 9.51000 1/hr  
3.000E+000 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.95100 1/hr

Unsprayed Removal from Unsprayed  
0.000E+000 Sec to 2.800E+000 Hrs for Halogens Elemental at 1.09200 1/hr

MSIV\_dep from MSIVVol  
0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 30.44000 1/hr

#### DIFFUSION PARAMETERS

Diffusion from Encl\_Bldg\_Vent to EAB  
0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 7.5000E-003 s/cu.m.

Diffusion from SGTS\_Vent to EAB  
0.000E+000 Sec to 3.000E+001 Dys at 6.0000E-004 s/cu.m.

Diffusion from SGTS\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 4.5000E-005 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 2.0000E-005 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 7.0000E-006 s/cu.m.

Diffusion from SGTS\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 5.0000E-004 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 2.5000E-004 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 1.6000E-004 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 1.3000E-004 s/cu.m.

Diffusion from TurbBldg\_Vent to EAB  
0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from TurbBldg\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.

Diffusion from TurbBldg\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.

#### DOSE LOCATIONS

EAB (with 2-hr sliding window)  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

LPZ  
0.000E+000 Sec to 8.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
8.000E+000 Hrs to 2.400E+001 Hrs at Breathing Rate=1.8000E-004 cu.m./s  
2.400E+001 Hrs to 3.000E+001 Dys at Breathing Rate=2.3000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

ControlRoom  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000  
1.000E+000 Dys to 4.000E+000 Dys at Occupancy Factor=0.600000  
4.000E+000 Dys to 3.000E+001 Dys at Occupancy Factor=0.400000

RRRRRR		AAAA	PPPPPP	TTTTTTTT	OOO	RRRRRR				
RRRRRRRR		AAAAAA	PPPPPPPP	TTTTTTTTTT	OOOOOOO	RRRRRRRR				
RR	RR	AA	AA	PP	PP	TT	OO	OO	RR	RR
RR	RR	AAA	AAA	PP	PP	TT	OO	OO	RR	RR
RR	RR	AA	AA	PP	PP	TT	OO	OO	RR	RR
RRRRRRRR		AAAAAAAAAA	PPPPPPPP	TT	OO	2.10B	OO	RRRRRRRR		
RRRRRR		AAAAAAAAAA	PPPPPP	TT	OO	OO	OO	RRRRRR		
RR	RR	AA	AA	PP	TT	OO	OO	RR	RR	
RR	RR	AA	AA	PP	TT	OO	OO	RR	RR	
RR	RR	AA	AA	PP	TT	OOOOOOO		RR	RR	
RR	RR	AA	AA	PP	TT	OOO		RR	RR	

UU	UU	TTTTTTTTTT	PPPPPP	UU	UU	TTTTTTTTTT
UUUUUUUU	UU	TTTTTTTTTT	PPPPPPPP	UU	UU	TTTTTTTTTT
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PPPPPP	UU	UU	UU
UU	UU	TT	PPPPPP	UU	UU	UU
UU	UU	TT	PP	UU	UU	UU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU

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Time = -121.000000 Seconds
CPU ClockTime = 0.060000 Seconds
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	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00000	0.00000	0.00000	0.00000	ending at	0.0 Sec
LPZ	0.00000	0.00000	0.00000	0.00000		
ControlRoom	0.00000	0.00000	0.00000	0.00000		

Isotope	Core	Dwywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.978390E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155300E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.697883E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.143675E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.243275E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.678945E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.065653E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.308247E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.175547E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.635714E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.302618E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.562010E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.478870E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.742760E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.884016E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092845E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.409164E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.472115E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.271141E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391960E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.477980E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.680518E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822060E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.793517E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000			

Ce-143	1.702805E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397825E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pd-143	1.666833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nr-147	7.448550E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.177800E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.568870E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409450E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480790E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

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Time = 0.000000 Seconds
CPU ClockTime = 0.280000 Seconds
```

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window				
EAB	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000 ending at 0.0 Sec			
LPZ	0.00000	0.00000	0.00000	0.00000					
ControlRoom	0.00000	0.00000	0.00000	0.00000					
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom	
Co-58	5.978308E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Co-60	7.155296E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-82E	3.695443E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-82O	1.142920E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-82P	7.238497E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-83E	6.164424E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-83O	2.045698E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-83P	1.295609E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-84E	1.124939E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-84O	3.479358E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Br-84P	2.203594E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Kr-85m	3.543534E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Kr-87	6.361102E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Kr-88	8.671334E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Rb-86	2.883866E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sr-89	1.092824E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sr-91	1.405712E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sr-92	1.459514E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Y-90	1.270679E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Y-91	1.391937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Y-92	1.468285E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Y-93	1.676684E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Zr-95	1.822032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Zr-97	1.791032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Nb-95	1.827874E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Mo-99	2.008248E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Tc-99m	1.752303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ru-103	1.766885E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ru-105	1.285103E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ru-106	7.694860E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Rh-105	1.206223E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sb-125	2.172003E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sb-127	8.732732E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Sb-129	3.620598E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-127	1.255903E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-127m	1.680112E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-129	3.510729E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-129m	7.780675E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-131m	1.593743E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-132	1.527573E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-133m	7.884410E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Te-134	1.773006E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-131E	5.227606E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-131O	1.616785E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-131P	1.023964E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-132E	7.465113E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-132O	2.308798E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-132P	1.462239E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-133E	1.044477E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-133O	3.230341E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-133P	2.045882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-134E	1.121636E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-134O	3.468977E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-134P	2.197019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-135E	9.737302E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-135O	3.011536E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
I-135P	1.907306E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Xe-133	2.120782E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Xe-135	8.400606E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Cs-134	3.203850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Cs-136	9.398947E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Cs-138	1.910134E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ba-139	1.920337E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ba-140	1.926310E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
La-140	1.980833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
La-141	1.804212E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
La-142	1.719988E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ce-141	1.786035E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ce-143	1.701608E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Ce-144	1.397820E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Pr-143	1.666714E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Nd-147	7.447892E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Np-238	6.174968E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	
Np-239	2.567811E+009	0.000000E+0							

Calculation XC-Q11111-98017  
Attachment 8, Rev. 1  
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Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480739E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 60.000000 Seconds  
CPU ClockTime = 0.390000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window ending at	60.0 Sec	
ControlRoom	LPZ	0.00027	0.03745	0.00165	0.00192			
		0.00000	0.00062	0.00003	0.00003			
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.978267E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155295E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cr-82E	3.694234E+004	6.079051E+001	3.516008E-003	3.279322E-001	0.000000E+000	2.450295E-004	1.231415E+002	1.424109E-007
Br-82O	1.142547E+003	1.893694E+000	1.099232E-004	1.025191E-002	0.000000E+000	8.946045E-006	3.808499E+000	4.425314E-009
Br-82P	7.236128E+005	1.191915E+003	6.940516E-002	6.466203E+000	0.000000E+000	5.619406E-003	2.412049E+003	2.791440E-006
Br-83E	6.582662E+005	1.083251E+003	6.265788E-002	5.843777E+000	0.000000E+000	4.366445E-003	2.194309E+003	2.537965E-006
Br-83O	2.035875E+004	3.374452E+001	1.958914E-003	1.826899E-001	0.000000E+000	1.594192E-004	6.786522E+001	7.886539E-008
Br-83P	1.289387E+007	2.123922E+004	1.236852E+000	1.152282E+002	0.000000E+000	1.001383E-001	4.298130E+004	4.974742E-005
Br-84E	1.100736E+006	1.811642E+003	1.048195E-001	9.774587E+000	0.000000E+000	7.303530E-003	3.669788E+003	4.246334E-006
Br-84O	3.404339E+004	5.643474E+001	3.277039E-003	3.055761E-001	0.000000E+000	2.666523E-004	1.134986E+002	1.319517E-007
Br-84P	2.156081E+007	3.552072E+004	2.069111E+000	1.927364E+002	0.000000E+000	1.674961E-001	7.188244E+004	8.323366E-005
Kr-85	1.517079E+006	2.514451E+003	1.459555E-001	1.361247E+001	0.000000E+000	1.187854E-002	0.000000E+000	5.875892E-006
Kr-85m	3.534409E+007	5.858155E+004	3.400610E+000	3.171496E+002	0.000000E+000	2.767517E-001	0.000000E+000	1.369051E-004
Kr-87	6.303501E+007	1.044839E+005	6.065864E+000	5.656873E+002	0.000000E+000	4.936311E-001	0.000000E+000	2.442190E-004
Kr-88	8.636132E+007	1.431426E+005	8.309512E+000	7.749567E+002	0.000000E+000	6.762442E-001	0.000000E+000	3.345368E-004
Rb-86	2.883792E+005	4.750088E+002	2.765961E-002	2.576943E+000	0.000000E+000	2.239473E-003	0.000000E+000	1.112452E-006
Sr-89	1.092814E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.404004E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.453305E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.270450E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.463501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.674786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.789800E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827849E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.007897E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.748938E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766864E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.281764E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.205829E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.172002E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.731638E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.611104E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.254361E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680105E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.475939E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.780564E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.593174E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.527348E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	7.786378E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.743985E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227293E+006	8.601759E+003	4.975072E-001	4.640177E+001	0.000000E+000	3.467120E-002	1.742432E+004	2.015078E-005
I-131O	1.616688E+005	2.679547E+002	1.555389E-002	1.450626E+000	0.000000E+000	1.265848E-003	5.388964E+002	6.261706E-007
I-131P	1.023903E+008	1.686540E+005	9.820674E+000	9.149552E+002	0.000000E+000	7.951350E-001	3.413011E+005	3.949815E-004
I-132E	7.427384E+006	1.222262E+004	7.069892E-001	6.593710E+001	0.000000E+000	4.926792E-002	2.475899E+004	2.863675E-005
I-132O	2.297129E+005	3.807488E+002	2.210306E-002	2.061345E+000	0.000000E+000	1.798775E-003	7.657420E+002	8.898657E-007
I-132P	1.454848E+008	2.396480E+005	1.395580E+001	1.300155E+003	0.000000E+000	1.129890E+000	4.849700E+005	5.613175E-004
I-133E	1.043897E+007	1.717789E+004	9.935403E-001	9.266568E+001	0.000000E+000	6.923939E-002	3.479673E+004	4.024203E-005
I-133O	3.228547E+005	5.351110E+002	3.106170E-002	2.896942E+000	0.000000E+000	2.527935E-003	1.076187E+003	1.250491E-006
I-133P	2.044747E+008	3.368055E+005	1.961225E+001	1.827192E+003	0.000000E+000	1.587908E+000	6.815853E+005	7.887961E-004
I-134E	1.106952E+007	1.821742E+004	1.053887E+000	9.828372E+001	0.000000E+000	7.343717E-002	3.690246E+004	4.269082E-005
I-134O	3.423564E+005	5.674935E+002	3.294834E-002	3.072575E+000	0.000000E+000	2.681196E-003	1.141313E+003	1.326586E-006
I-134P	2.168257E+008	3.571874E+005	2.080347E+001	1.937969E+003	0.000000E+000	1.684178E+000	7.228317E+005	8.367956E-004
I-135E	9.720195E+006	1.599527E+004	9.251581E-001	8.628692E+001	0.000000E+000	6.447321E-002	3.240113E+004	3.747268E-005
I-135O	3.006246E+005	4.982710E+002	2.892382E-002	2.697528E+000	0.000000E+000	2.353922E-003	1.002097E+003	1.164436E-006
I-135P	1.903956E+008	3.136179E+005	1.826240E+001	1.701415E+003	0.000000E+000	1.478602E+000	6.346612E+005	7.345132E-004
Xe-133	2.120588E+008	3.514725E+005	2.040184E+001	1.902767E+003	0.000000E+000	1.660396E+000	0.000000E+000	8.213401E-004
Xe-135	8.389948E+007	1.390588E+005	8.072073E+000	7.528304E+002	0.000000E+000	6.569363E-001	0.000000E+000	3.249699E-004
Cs-134	3.203848E+007	5.277273E+004	3.072938E+000	2.862942E+002	0.000000E+000	2.488019E-001	0.000000E+000	1.235916E-004
Cs-136	9.398603E+006	1.548107E+004	9.014583E-001	8.398549E+000	0.000000E+000	7.298697E-002	0.000000E+000	3.625610E-005
Cs-137	1.641027E+007	2.703045E+004	1.573974E+000	1.466413E+002	0.000000E+000	1.274376E-001	0.000000E+000	6.330425E-005
Cs-138	1.869455E+008	3.079858E+005	1.794035E+001	1.671136E+003	0.000000E+000	1.452288E+000	0.000000E+000	7.216806E-004
Ba-139	1.904511E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926238E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980265E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.798875E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.707133E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786008E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701014E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397818E+008	0.000000E+000	0.000000E+000	0				

Calculation XC-Q11111-98017  
Attachment 8, Rev. 1  
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EAB 0.11812 16.97304 0.74658 0.86470 0.86470 ending at 600.0 Sec  
LPZ 0.02461 3.53605 0.15554 0.18015  
ControlRoom 0.00024 0.59698 0.02626 0.02649

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.977901E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155278E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.683370E+004	5.417179E+002	2.880271E+000	2.663548E+001	2.624405E-004	8.382082E-003	1.227794E+003	1.327983E-005
Br-82O	1.139187E+003	1.796829E+001	9.923671E-002	9.155675E-001	8.792563E-006	8.761460E-004	3.797299E+001	4.304157E-007
Br-82P	7.214849E+005	1.071203E+004	6.092579E+001	5.563954E+002	5.401249E-003	5.111261E-001	2.404956E+004	2.617774E-004
Br-83E	6.303579E+005	9.271098E+003	4.929739E+001	4.558636E+002	4.491823E-003	1.434585E-001	2.101277E+004	2.272999E-004
Br-83O	1.949560E+004	3.075139E+002	1.698490E+000	1.566985E+001	1.504899E-004	1.499515E-002	6.498795E+002	7.367070E-006
Br-83P	1.234722E+007	1.833284E+005	1.042778E+003	9.522653E+003	9.244556E-002	8.747870E+000	4.115904E+005	4.480629E-003
Br-84E	9.046616E+005	1.330735E+004	7.077954E+001	6.544215E+002	6.449278E-003	2.059436E-001	3.016087E+004	3.263955E-004
Br-84O	2.797922E+004	4.413927E+002	2.438635E+000	2.249508E+001	2.160706E-004	2.152646E-002	9.328102E+002	1.057888E-005
Br-84P	1.772017E+007	2.631420E+005	1.497186E+003	1.367038E+004	1.327317E-001	1.255811E+001	5.907798E+005	6.434041E-003
Kr-85	1.517078E+006	2.392866E+004	1.321544E+002	1.219273E+003	1.170913E-002	1.166775E+000	0.000000E+000	5.734750E-004
Kr-85m	3.453326E+007	5.447002E+005	3.008428E+003	2.775553E+004	2.665529E-001	2.656045E+001	0.000000E+000	1.305514E-002
Kr-87	5.808007E+007	9.161586E+005	5.060577E+003	4.668598E+004	4.483793E-001	4.467578E+001	0.000000E+000	2.196168E-002
Kr-88	8.325682E+007	1.313243E+006	7.253339E+003	6.691794E+004	6.426613E-001	6.403663E+001	0.000000E+000	3.147642E-002
Rb-86	2.883122E+005	4.280617E+003	2.434634E+001	2.223397E+002	2.158373E-003	2.042498E-001	0.000000E+000	1.046077E-004
Sr-89	1.092720E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.388722E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.398604E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.268390E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391822E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.421142E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.657801E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.778758E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827623E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.004733E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.718942E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766669E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.252097E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694761E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.202293E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171993E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.721792E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.526774E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.240563E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680038E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.177941E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.779561E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.588070E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.525319E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.957155E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.503268E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.224477E+006	7.683686E+004	4.085336E+002	3.777948E+003	3.722419E-002	1.188906E+000	1.741493E+005	1.883589E-003
I-131O	1.615818E+005	2.548609E+003	1.407560E+001	1.298631E+002	1.247125E-003	1.242716E-001	5.386061E+003	6.104943E-005
I-131P	1.023351E+008	1.519386E+006	8.641631E+003	7.891853E+004	7.661057E-001	7.249759E+001	3.411172E+006	3.713007E-002
I-132E	7.096289E+006	1.043701E+005	5.549716E+002	5.131932E+003	5.056728E-002	1.614999E+000	2.365530E+005	2.558863E-003
I-132O	2.194728E+005	3.461862E+003	1.912097E+001	1.764050E+002	1.694159E-003	1.688094E-001	7.316070E+003	8.293590E-005
I-132P	1.389995E+008	2.063834E+006	1.173920E+004	1.072023E+005	1.040718E+000	9.848005E+001	4.633511E+006	5.044135E-002
I-133E	1.038692E+007	1.527620E+005	8.122264E+002	7.511098E+003	7.400733E-002	2.363714E+000	3.462322E+005	3.744874E-003
I-133O	3.212449E+005	5.066976E+003	2.798441E+001	2.581864E+002	2.479473E-003	2.470697E-001	1.070821E+004	1.213760E-004
I-133P	2.034551E+008	3.020744E+006	1.718086E+004	1.569013E+005	1.523134E+000	1.441355E+002	6.781868E+006	7.382048E-002
I-134E	9.831547E+006	1.446093E+005	7.690412E+002	7.110997E+003	7.007299E-002	2.237801E+000	3.277542E+005	3.546133E-003
I-134O	3.040685E+005	4.796558E+003	2.649651E+001	2.444333E+002	2.347661E-002	2.339085E-001	1.013673E+004	1.149345E-004
I-134P	1.925767E+008	2.859530E+006	1.626738E+004	1.485435E+005	1.442162E+000	1.364575E+002	6.419928E+006	6.990283E-002
I-135E	9.567581E+006	1.407133E+005	7.481792E+002	6.918750E+003	6.817161E-002	2.177304E+000	3.189240E+005	3.449610E-003
I-135O	2.959046E+005	4.667331E+003	2.577773E+001	2.378250E+002	2.283958E-003	2.275850E-001	9.863630E+003	1.118061E-004
I-135P	1.874062E+008	2.782490E+006	1.582609E+004	1.445276E+005	1.403030E+000	1.327685E+002	6.246966E+006	6.800012E-002
Xe-133	2.118836E+008	3.342014E+006	1.845747E+004	1.702908E+005	1.635367E+000	1.629586E+002	0.000000E+000	8.009498E-002
Xe-135	8.294634E+007	1.308315E+006	7.225783E+003	6.66526E+004	6.402187E-001	6.379485E+001	0.000000E+000	3.135611E-002
Cs-134	3.203829E+007	4.756775E+005	2.705452E+003	2.470719E+004	2.398461E-001	2.269697E+001	0.000000E+000	1.162438E-002
Cs-136	9.395509E+006	1.394966E+005	7.933980E+002	7.245602E+003	7.033704E-002	6.656088E+000	0.000000E+000	3.408954E-003
Cs-137	1.641026E+007	2.436457E+005	1.385753E+003	1.265521E+004	1.228510E-001	1.162556E+001	0.000000E+000	5.954095E-003
Cs-138	1.540197E+008	2.287165E+006	1.301311E+004	1.188193E+005	1.153665E+000	1.091517E+002	0.000000E+000	5.592271E-002
Ba-139	1.767819E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925583E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.975159E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.751552E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.595682E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785770E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.695683E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397797E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666123E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.444627E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.160944E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.562568E+009	0.000000E+000	0.000000E+000	0.0				

Br-83E	6.065454E+005	1.458542E+004	2.255933E+002	1.186230E+003	2.120219E-001	2.505824E-001	3.639398E+004	6.515685E-004
Br-83O	1.875913E+004	5.100177E+002	8.452860E+000	4.419087E+001	6.664237E-003	4.545046E-002	1.125587E+003	2.189122E-005
Br-83P	1.188079E+007	2.904419E+005	5.062493E+003	2.599638E+004	4.843499E-001	2.485626E+001	7.128718E+005	1.290413E-002
Br-84E	7.598981E+005	1.827563E+004	2.827509E+002	1.486572E+003	2.657072E-001	3.140260E-001	4.560192E+004	8.167667E-004
Br-84O	2.350200E+004	6.390557E+002	1.059453E+001	5.537959E+001	8.351681E-003	5.695780E-002	1.410369E+003	2.744151E-005
Br-84P	1.488460E+007	3.639257E+005	6.345155E+003	3.257843E+004	6.070784E-001	3.114948E+001	8.932334E+005	1.617584E-002
Kr-85	1.517076E+006	4.124416E+004	6.835112E+002	3.573483E+003	6.527621E-002	3.675344E+000	0.000000E+000	1.772815E-003
Kr-85m	3.382816E+007	9.196927E+005	1.524210E+004	7.968594E+004	1.455644E+000	8.195731E+001	0.000000E+000	3.953409E-002
Kr-87	5.400363E+007	1.468287E+006	2.433664E+004	1.272255E+005	2.324203E+000	1.308517E+002	0.000000E+000	6.312635E-002
Kr-88	8.059108E+007	2.191072E+006	3.631363E+004	1.898459E+005	3.468013E+000	1.952572E+002	0.000000E+000	9.418937E-002
Rb-86	2.882527E+005	7.046445E+003	1.228118E+002	6.306753E+002	1.174986E-002	6.030167E-001	0.000000E+000	3.130313E-004
Sr-89	1.092637E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.375277E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.351711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391731E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.384520E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.642848E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.768999E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827421E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.692711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766496E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.226304E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694681E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.199158E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171984E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.713050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.453468E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.228426E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679979E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.934571E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778669E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.583547E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.523519E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.294506E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.317338E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.221975E+006	1.255663E+005	1.941984E+003	1.021187E+004	1.825223E+000	2.157186E+001	3.133170E+005	5.608708E-003
I-131O	1.615044E+005	4.390758E+003	7.276511E+001	3.804250E+002	5.377004E-002	3.912689E-001	9.690215E+003	1.884398E-004
I-131P	1.022861E+008	2.500423E+006	4.357967E+004	2.237945E+005	4.169429E+000	2.139799E+002	6.137136E+006	1.110789E-001
I-132E	6.814393E+005	1.638641E+005	2.534503E+003	1.332707E+004	2.382027E+000	2.815245E+000	4.088786E+005	7.320280E-003
I-132O	2.107544E+005	5.729939E+003	9.496648E+001	4.964761E+002	7.487145E-002	5.106272E-001	1.264573E+004	2.459448E-004
I-132P	1.334778E+008	3.263052E+006	5.687627E+004	2.920645E+005	5.441592E+000	2.792554E+002	8.008963E+006	1.449761E-001
I-133E	1.034078E+007	2.486551E+005	3.845682E+003	2.022233E+004	3.614447E+000	4.271825E+000	6.204516E+005	1.110688E-002
I-133O	3.198207E+005	8.694879E+003	1.440956E+002	7.533468E+002	1.136086E-001	7.748206E-001	1.918923E+004	3.731660E-004
I-133P	2.025531E+008	4.951509E+006	8.561016E+004	4.431751E+005	8.256660E+000	4.237393E+002	1.215318E+007	2.199687E-001
I-134E	8.847852E+006	2.127766E+005	3.291488E+003	1.730633E+004	3.093283E+000	3.655827E+000	5.309265E+005	9.507268E-003
I-134O	2.736449E+005	7.440293E+003	1.233303E+002	6.447165E+002	9.722763E-002	6.30913E-001	1.642041E+004	3.194226E-004
I-134P	1.733084E+008	4.237054E+006	7.386360E+004	3.792706E+005	7.066902E+000	3.626360E+002	1.039959E+007	1.882888E-001
I-135E	9.433937E+006	2.268494E+005	3.508508E+003	1.844914E+004	3.297517E+000	3.897248E+000	5.660414E+005	1.013318E-002
I-135O	2.917712E+005	7.932386E+003	1.314619E+002	6.872895E+002	1.036469E-001	7.068802E-001	1.750643E+004	3.404517E-004
I-135P	1.847884E+008	4.517289E+006	7.873370E+004	4.043152E+005	7.532759E+000	3.865836E+002	1.108741E+007	2.006847E-001
Xe-133	2.117280E+008	5.756172E+006	9.539325E+004	4.987276E+005	9.110179E+000	5.129437E+002	0.000000E+000	2.474205E-001
Xe-135	8.210820E+007	2.232267E+006	3.699463E+004	1.934106E+005	3.533039E+000	1.989236E+000	0.000000E+000	9.595352E-002
Cs-134	3.203813E+007	7.831840E+005	1.365004E+003	7.009701E+004	1.305949E+000	6.702287E+001	0.000000E+000	3.479214E-002
Cs-136	9.392761E+006	2.296096E+005	4.001845E+004	2.055066E+004	3.828713E-001	1.964940E+001	0.000000E+000	1.020018E-002
Cs-137	1.641026E+007	4.011548E+005	6.991687E+003	3.590440E+004	6.689205E-001	3.432979E+001	0.000000E+000	1.782089E-002
Cs-138	1.296541E+008	3.170011E+006	5.526986E+004	2.837771E+005	5.287992E+000	2.713301E+002	0.000000E+000	1.409030E-001
Ba-139	1.654574E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925002E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.970631E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.710533E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.502738E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785559E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.690958E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665650E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.442017E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.149747E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.558381E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480288E+006	0.000000E+000	0.0					

Rb-86	2.881634E+005	1.032750E+004	4.615153E+002	1.459528E+003	7.390678E-001	1.393992E+000	0.000000E+000	2.365962E-004
Sr-89	1.092512E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232039E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.355354E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.284303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.263825E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391593E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.331349E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.620671E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821621E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.754462E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827120E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	1.997721E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.654113E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766236E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.188607E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.194471E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171972E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.699954E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.346357E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.210442E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679890E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.604012E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.777332E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.576786E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.520821E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	5.416972E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.080659E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.218225E+006	1.822092E+005	6.700228E+003	2.208362E+004	1.748977E+001	3.248925E+000	5.218167E+005	5.115365E-003
I-131O	1.613884E+005	6.860733E+003	2.835431E+002	9.224349E+002	6.473750E-001	9.303514E-001	1.613866E+004	1.719035E-004
I-131P	1.022127E+008	3.663204E+006	1.637014E+005	5.177004E+005	2.621503E+002	4.944547E+002	1.022115E+007	8.392167E-002
I-132E	6.412407E+006	2.239168E+005	8.234614E+003	2.713978E+004	2.149413E+001	3.992770E+000	6.412603E+005	6.287058E-003
I-132O	1.983218E+005	8.431151E+003	3.484759E+002	1.133632E+003	7.955962E-001	1.220411E+000	1.983279E+004	2.112785E-004
I-132P	1.256038E+008	4.501710E+006	2.011899E+005	6.362309E+005	3.221721E+002	6.076605E+002	1.256077E+007	1.031442E-001
I-133E	1.027218E+007	3.586839E+005	1.318970E+004	4.347241E+004	3.442925E+001	6.395626E+000	1.027211E+006	1.006986E-002
I-133O	3.176962E+005	1.350554E+004	5.581672E+002	1.815847E+003	1.274381E+001	1.954857E+000	3.176940E+004	3.384009E-004
I-133P	2.012076E+008	7.211119E+006	3.222534E+005	1.019112E+006	5.160526E+002	9.733518E+002	2.012062E+007	1.652042E-001
I-134E	7.553736E+006	2.637891E+005	9.702278E+003	3.197484E+004	2.532335E+001	4.704070E+000	7.554477E+005	7.408080E-003
I-134O	2.336207E+005	9.932464E+003	4.105853E+002	1.335593E+003	9.373373E-001	1.437824E+000	2.336436E+004	2.489509E-004
I-134P	1.479598E+008	5.303317E+006	2.370482E+005	7.495785E+005	3.795705E+002	7.159134E+002	1.479743E+007	1.215355E-001
I-135E	9.236963E+006	3.225395E+005	1.186082E+004	3.909214E+004	3.096016E+001	5.751199E+000	9.236990E+005	9.055401E-003
I-135O	2.856792E+005	1.214460E+004	5.019313E+002	1.632883E+003	1.145976E+001	1.757885E+000	2.856801E+004	3.043096E-004
I-135P	1.809302E+008	6.484458E+006	2.897861E+005	9.164268E+005	4.640557E+002	8.752764E+002	1.809307E+007	1.485611E-001
Xe-133	2.114949E+008	8.990799E+006	3.715755E+005	1.208825E+006	6.263885E+002	1.301366E+003	0.000000E+000	2.600197E-001
Xe-135	8.086684E+007	3.437740E+006	1.420793E+005	4.622140E+005	2.395100E+002	4.975980E+002	0.000000E+000	9.942478E-002
Cs-134	3.203789E+007	1.148207E+006	5.131105E+004	1.622696E+005	8.216921E+001	1.549834E+002	0.000000E+000	2.630464E-002
Cs-136	9.388639E+006	3.364798E+005	1.503661E+004	4.755282E+004	2.407954E+001	4.541762E+001	0.000000E+000	7.708533E-003
Cs-137	1.641025E+007	5.881273E+005	2.628223E+004	8.311674E+004	4.208820E+001	7.938465E+001	0.000000E+000	1.347360E-002
Cs-138	1.001385E+008	3.589511E+006	1.604674E+005	5.073915E+005	2.569305E+002	4.845944E+002	0.000000E+000	8.227758E-002
Ba-139	1.498162E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.924130E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.963859E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.650798E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.373373E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785241E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.683895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397749E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.664941E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.438103E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.132990E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.552114E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409446E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170044E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.479987E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789994E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 7200.000000 Seconds  
CPU ClockTime = 15.600000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window			
EAB	2.34483	62.55750	3.03570	5.38053	5.38053 ending at	7200.0 Sec		
LPZ	0.48851	13.03281	0.63244	1.12094				
ControlRoom	0.03353	26.15796	1.18812	1.22165				
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom	
Co-58	7.886535E+002	4.859044E+001	9.702808E+001	2.478816E-001	3.000421E-001	0.000000E+000	5.454537E-007	
Co-60	9.446629E+002	5.820246E+001	1.162219E+002	2.969168E-001	3.593957E-001	0.000000E+000	6.533538E-007	
Br-82E	3.598755E+003	9.553642E+001	3.291438E+002	1.771987E+000	6.697880E-002	2.131790E+004	2.363794E-005	
Br-82O	1.907181E+002	7.721728E+001	6.139653E+001	9.714722E-002	9.527930E-002	6.593166E+002	8.975530E-007	
Br-82P	9.774533E+004	6.233773E+003	1.233934E+004	3.599555E+001	4.264994E+001	4.175672E+005	1.569235E-004	
Br-83E	3.760012E+004	9.982627E+002	3.439105E+003	1.851461E+001	6.998270E-001	2.227314E+005	2.470018E-004	
Br-83O	1.992640E+003	8.069363E+002	6.145913E+002	1.010065E+000	9.955242E-001	6.888601E+003	3.378956E-005	
Br-83P	1.021252E+006	6.513813E+004	1.289319E+005	3.761036E+002	4.456272E+002	3.462781E+006	1.639780E+003	
Br-84E	8.333059E+003	2.213132E+002	7.623358E+002	4.103879E+000	1.551199E-001	4.936245E+004	5.476687E-005	
Br-84O	4.416153E+002	1.789725E+002	1.422878E+002	2.250140E+002	2.206625E-001	1.526674E+005	2.079633E+006	
Br-84P	2.263331E+005	1.444208E+004	2.858208E+004	8.336902E+001	9.877528E+001	9.668972E+003	3.636053E-004	
Kr-85	9.341581E+005	3.198843E+005	2.615497E+005	3.254259E+002	4.116980E+002	0.000000E+000	9.604951E+002	
Kr-85m	1.601312E+007	5.483958E+006	4.483834E+006	5.578576E+003	7.057383E+003	0.000000E+000	1.646617E+000	
Kr-87	1.314985E+007	4.504577E+006	3.682938E+006	4.581498E+003	5.795781E+003	0.000000E+000	1.352518E+000	
Kr-88	3.277375E+007	1.122459E+007	7.177459E+006	1.141780E+004	1.444439E+004	0.000000E+000	3.370286E+000	
Rb-86	3.278523E+004	2.107306E+003	4.163140E+003	1.248294E+001	1.472965E+001	0.000000E+000	5.957090E+005	
Sr-89	1.152938E+006	7.103470E+004	1.184840E+005	3.623798E+002	4.386337E+002	0.000000E+000	7.974027E-004	
Sr-90	1.301293E+005	8.017510E+003	1.600981E+004	4.090091E+001	4.950750E+001	0.000000E+000	9.000085E+005	
Sr-91	1.283153E+006	7.905976E+004	1.578694E+005	4.03129E+002	4.881787E+002	0.000000E+000	8.875007E-004	
Sr-92	9.243012E+005	5.695373E+004	1.137244E+005	2.950303E+002	3.516616E+002	0.000000E+000	6.363767E-004	
Y-90	1.313389E+003	8.092070E+001	1.615867E+002	4.128118E-001	4.996777E-001	0.000000E+000	9.083802E-007	
Y-91	1.468734E+004	9.049146E+002	1.806984E+003	4.616374E+000	5.587777E+000	0.000000E+000	1.015815E+005	
Y-92	1.048337E+004	6.455960E+002	1.289836E+003	3.295143E+000	3.988493E+000	0.000000E+000	7.251416E-006	
Y-93	1.545902E+004	9.524853E+002	1.901958E+003	4.858983E+000	5.881420E+000	0.000000E+000	1.062930E+005	
Zr-95	1.922722E+004	1.184626E+003	2.365526E+003	6.04305E+000	7.314970E+000	0.000000E+000	1.329806E-005	

Zr-97	1.741891E+004	1.073230E+003	2.143073E+003	5.474976E+000	6.627039E+000	0.000000E+000	1.204768E-005
Nb-95	1.927442E+004	1.187534E+003	2.371333E+003	6.058140E+000	7.332926E+000	0.000000E+000	1.333070E-005
Mo-99	2.596272E+005	1.599619E+004	3.194204E+004	8.160354E+001	9.877496E+001	0.000000E+000	1.795662E-004
Tc-99m	1.836970E+005	1.131844E+004	2.260093E+004	5.773897E+001	6.988839E+001	0.000000E+000	1.270584E-004
Ru-103	2.329335E+005	1.435147E+004	2.865782E+004	7.321328E+001	8.861922E+001	0.000000E+000	1.611030E-004
Ru-105	1.241683E+005	7.650715E+003	1.527705E+004	3.902840E+001	4.724066E+001	0.000000E+000	8.588597E-005
Ru-106	1.015777E+005	6.258354E+003	1.249703E+004	3.192667E+001	3.864485E+001	0.000000E+000	7.025339E-005
Rh-105	1.531383E+005	9.435209E+003	1.884070E+004	4.813302E+001	5.826139E+001	0.000000E+000	1.059157E-004
Sb-125	5.734926E+004	3.533396E+003	7.055681E+003	1.802543E+001	2.181844E+001	0.000000E+000	3.966426E-005
Sb-127	2.271486E+006	1.399510E+005	2.794616E+005	7.139514E+002	8.641847E+002	0.000000E+000	1.571027E-003
Sb-129	6.976703E+005	4.298747E+004	8.583793E+004	2.192908E+002	2.654335E+002	0.000000E+000	4.825721E-004
Te-127	2.861568E+005	1.763117E+004	3.520656E+004	8.994308E+001	1.088691E+002	0.000000E+000	1.979222E-004
Te-127m	4.434048E+004	2.731901E+003	5.455212E+003	1.393665E+001	1.686927E+001	0.000000E+000	3.066705E-005
Te-129	2.806134E+005	1.729323E+004	3.452925E+004	8.820904E+001	1.067678E+002	0.000000E+000	1.941482E-004
Te-129m	2.050988E+005	1.263652E+004	2.523331E+004	6.446456E+001	7.802954E+001	0.000000E+000	1.418518E-004
Te-131m	4.032085E+005	2.484264E+004	4.960703E+004	1.267329E+002	1.534006E+002	0.000000E+000	2.788732E-004
Te-132	3.962778E+006	2.441551E+005	4.875419E+005	1.455442E+002	1.507635E+002	0.000000E+000	2.740776E-003
Te-133m	4.639341E+005	2.859239E+004	5.708901E+004	1.258388E+002	1.765215E+002	0.000000E+000	3.210115E-004
Te-134	6.462142E+005	3.983015E+004	7.952429E+004	2.031477E+002	2.458851E+002	0.000000E+000	4.472004E-004
I-131E	5.256795E+005	1.395518E+004	4.807875E+004	2.588381E+002	9.783747E+002	3.113962E+006	3.452830E-003
I-1310	2.785869E+004	1.127920E+004	8.968256E+003	1.419050E+001	1.391767E+001	9.630810E+004	1.311069E-004
I-131P	1.427792E+007	9.105776E+005	1.802433E+006	5.257949E+003	6.229974E+003	6.099513E+007	2.292203E-002
I-132E	4.116532E+005	1.092922E+004	3.765207E+004	2.027019E+002	7.661853E+002	2.438505E+006	2.704241E-003
I-1320	2.181580E+004	8.834589E+003	7.024332E+003	1.111316E+001	1.089921E+001	7.541769E+004	1.026833E-004
I-132P	1.118086E+007	7.131488E+005	1.411576E+006	4.117664E+003	4.878820E+003	4.776454E+007	1.795276E-002
I-133E	9.896777E+005	2.627317E+004	9.051663E+004	4.873072E+002	1.841958E+003	5.862543E+006	6.500606E-003
I-1330	5.244854E+004	2.123540E+004	1.688454E+004	2.671611E+001	2.620239E+001	1.813158E+005	2.468338E-004
I-133P	2.688051E+007	1.714332E+006	3.393401E+006	9.899003E+003	1.172899E+004	1.148333E+008	4.315514E-002
I-134E	2.337100E+005	6.205909E+003	2.137842E+004	1.150892E+002	4.350198E+002	1.384425E+006	1.535635E-003
I-1340	1.238560E+004	5.017538E+003	3.989250E+003	6.310029E+000	6.188282E+000	4.281728E+004	5.831085E-005
I-134P	6.347768E+006	4.049595E+005	8.015058E+005	2.337954E+003	2.770065E+003	2.711761E+007	1.019498E-002
I-135E	7.986296E+005	2.120189E+004	7.304426E+004	3.932412E+002	1.486400E+003	4.730833E+006	5.245898E-003
I-1350	4.232384E+004	1.713703E+004	1.362579E+004	2.155917E+001	2.114447E+001	1.463144E+005	1.991918E-004
I-135P	2.169148E+007	1.383436E+006	2.738389E+006	7.988199E+003	9.464915E+003	9.266580E+007	3.482574E-002
Xe-133	1.291606E+008	4.422871E+007	3.616309E+007	4.499482E+004	5.692314E+004	0.000000E+000	1.328026E+001
Xe-135	4.441945E+007	1.521136E+007	1.243731E+007	1.547436E+004	1.957655E+004	0.000000E+000	4.567394E+000
Cs-134	3.653314E+006	2.348206E+005	4.639056E+005	1.390995E+003	1.641350E+003	0.000000E+000	6.638083E-003
Cs-136	1.067140E+006	6.859158E+004	1.355077E+005	4.063121E+002	4.794413E+002	0.000000E+000	1.938998E-003
Cs-137	1.871378E+006	1.202848E+005	2.376316E+005	7.125247E+002	8.407670E+002	0.000000E+000	3.400299E-003
Cs-138	1.645656E+006	1.058318E+005	2.090415E+005	6.267321E+002	7.394878E+002	0.000000E+000	2.992141E-003
Ba-139	7.514233E+005	4.630574E+004	9.245961E+004	2.362009E+002	2.858976E+002	0.000000E+000	5.198567E-004
Ba-140	2.025402E+006	1.247889E+005	2.491854E+005	6.366038E+002	7.705614E+002	0.000000E+000	1.400823E-003
La-140	2.021395E+004	1.245428E+003	2.486935E+003	6.353464E+000	7.690389E+000	0.000000E+000	1.398065E-005
La-141	1.335599E+004	8.229460E+002	1.643264E+003	4.198054E+000	5.081394E+000	0.000000E+000	9.238328E-006
La-142	7.385106E+003	4.550917E+002	9.086966E+002	2.321400E+002	2.809829E+002	0.000000E+000	5.109093E-006
Ce-141	4.707717E+004	2.900514E+003	5.791908E+003	1.479682E+001	1.791045E+001	0.000000E+000	3.255983E-005
Ce-143	4.308984E+004	2.654868E+003	5.301373E+003	1.354361E+001	1.639352E+001	0.000000E+000	2.980244E-005
Ce-144	3.690247E+004	2.273631E+003	4.540113E+003	1.159881E+001	1.403949E+001	0.000000E+000	2.552273E-005
Pr-143	1.752931E+004	1.080015E+003	2.156633E+003	5.509636E+000	6.669003E+000	0.000000E+000	1.212375E-005
Nd-147	7.825302E+003	4.821320E+002	9.627478E+002	2.959570E+000	2.977126E+000	0.000000E+000	5.412194E-006
Np-238	1.586639E+004	9.775634E+002	1.952049E+003	4.986974E+002	6.036357E+002	0.000000E+000	1.097370E-005
Np-239	6.616130E+005	4.076342E+004	8.139853E+004	2.079519E+002	2.517101E+002	0.000000E+000	4.575923E-004
Pu-238	1.956489E+002	1.205430E+001	2.407070E+001	6.149438E-002	7.443436E-002	0.000000E+000	1.353160E-007
Pu-239	1.410327E+001	8.689289E-001	1.735126E+000	4.432795E-003	5.365568E-003	0.000000E+000	9.754192E-009
Pu-240	2.136139E+001	1.316116E+000	2.628093E+000	6.714095E-003	8.126912E-003	0.000000E+000	1.477410E-008
Pu-241	5.730034E+003	3.530382E+002	7.049663E+002	1.801006E+000	2.179983E+000	0.000000E+000	3.963043E-006
Am-241	2.944546E+000	1.814190E-001	3.622676E-001	9.254998E-004	1.120249E-003	0.000000E+000	2.036526E-009
Cm-242	8.954305E+002	5.516916E+001	1.101649E+002	2.814426E-001	3.406653E-001	0.000000E+000	6.193035E-007
Cm-244	1.890606E+002	1.164838E+001	2.326013E+001	5.942359E-002	7.192782E-002	0.000000E+000	1.307593E-007

Time = 7201.000000 Seconds  
CPU ClockTime = 15.600000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	0.48859	13.03324	0.63247	1.12106	ending at	7201.0 Sec
ControlRoom	0.03354	26.15995	1.18823	1.22178			
Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	2.877822E+002	5.023643E+001	5.968881E+002	2.479923E-001	3.000659E-001	0.000000E+000	5.456675E-007
Co-60	3.447105E+002	6.017407E+001	7.149552E+002	2.970495E-001	3.594241E-001	0.000000E+000	6.536100E-007
Br-82E	1.276088E+003	1.030108E+002	2.646701E+003	1.772500E+000	6.703302E-002	2.131779E+004	2.363774E-005
Br-820	8.194481E+001	7.763456E+001	1.699596E+002	9.187577E-002	9.530959E-002	6.593130E+002	8.975972E-007
Br-82P	3.576937E+004	6.437544E+003	7.418833E+004	3.600851E+001	4.265056E+002	4.175649E+005	1.569231E-004
Br-83E	1.333175E+004	1.076278E+003	2.765103E+004	1.851858E+001	7.003411E-001	2.227136E+005	2.469813E-004
Br-830	8.561403E+002	8.112356E+002	1.775698E+003	1.015392E+000	9.957663E-001	6.888049E+003	9.378716E-006
Br-83P	3.736968E+005	6.726221E+004	7.750748E+005	3.762109E+002	4.456003E+002	4.362431E+006	1.639653E-003
Br-84E	2.953837E+003	2.385382E+002	6.126476E+003	4.103598E+000	1.551899E-001	4.934452E+004	5.474683E-005
Br-840	1.897181E+002	1.798746E+002	3.934895E+002	2.250227E-001	2.206537E-001	1.526119E+003	2.078991E-006
Br-84P	8.279895E+004	1.490867E+004	1.717312E+005	8.336921E+001	9.874138E+001	9.665420E+005	3.634744E-004
Kr-85	3.886326E+005	3.219296E+005	8.060528E+005	3.255895E+002	4.118481E+002	0.000000E+000	9.609166E-002
Kr-85m	6.661697E+006	5.518782E+006	1.381685E+007	5.581141E+003	7.059653E+003	0.000000E+000	1.647269E+000
Kr-87	5.470214E+006	4.532685E+006	1.134563E+007	4.583106E+003	5.797016E+003	0.000000E+000	1.352906E+000
Kr-88	1.363418E+007	1.129559E+007	2.827831E+007	1.142277E+004	1.444867E+004	0.000000E+000	3.371536E+000
Rb-86	1.200555E+004	2.175650E+003	2.490040E+004	1.248730E+001	1.472977E+001	0.000000E+000	5.956902E-005
Sr-89	4.207107E+005	7.344099E+004	8.725852E+005	3.625417E+002	4.386684E+002	0.000000E+000	7.977152E-004
Sr-90	4.748459E+004	8.289103E+003	9.848656E+004	4.091919E+001	4.951142E+001	0.000000E+000	9.003613E-005
Sr-91	4.682181E+005	8.173620E+004	9.711190E+005	4.034849E+002	4.882075E+002	0.000000E+000	8.878307E-004
Sr-92	3.372590E+005	5.887873E+004	6.995001E+005	2.906395E+002	3.516645E+002	0.000000E+000	6.395730E-004
Y-90	4.792585E+002	8.366163E+001	9.940176E+002	4.129950E-001	4.997157E-001	0.000000E+000	9.087336E-007
Y-91	5.359455E+003	9.355684E+002	1.111591E+004	4.618437E+000	5.588218E+000	0.000000E+000	1.016213E-005
Y-92	3.825229E+003	6.677947E+002	7.933809E+003	3.296437E+000	3.988592E+000	0.000000E+000	7.253865E-006
Y-93	5.640952E+003	9.847316E+002	1.169975E+004	4.861062E+000	5.881774E+000	0.000000E+000	1.069629E-005
Zr-95	7.016074E+003	1.224755E+003	1.455186E+004	6.046005E+000	7.315548E+000	0.000000E+000	1.330327E-005
Zr-97	6.356152E+003	1.109572E+003	1.318313E+004	5.477361E+000	6.627488E+000	0.000000E+000	1.205226E-005
Nb-95	7.033295E+003						

Sb-129	2.545721E+005	4.444167E+004	5.280015E+005	2.193793E+002	2.654429E+002	0.000000E+000	4.827402E-004
Te-127	1.044176E+005	1.822805E+004	2.165699E+005	8.998144E+001	1.088755E+002	0.000000E+000	1.979958E-004
Te-127m	1.617998E+004	2.824444E+003	3.355848E+004	1.394288E+001	1.687061E+001	0.000000E+000	3.067907E-005
Te-129	1.023815E+005	1.787598E+004	2.123468E+005	8.823382E+001	1.067586E+002	0.000000E+000	1.941921E-004
Te-129m	7.484118E+004	1.306458E+004	1.552261E+005	6.449336E+001	7.803570E+001	0.000000E+000	1.419074E-004
Te-131m	1.471313E+005	2.568403E+004	3.051612E+005	1.267888E+002	1.534118E+002	0.000000E+000	2.789808E-004
Te-132	1.446027E+006	2.524252E+005	2.999168E+006	1.246096E+003	1.507751E+003	0.000000E+000	2.741844E-003
Te-133m	1.692594E+005	2.955460E+004	3.510565E+005	1.458735E+002	1.764986E+002	0.000000E+000	3.210704E-004
Te-134	2.357474E+005	4.116773E+004	4.889576E+005	2.031826E+002	2.458369E+002	0.000000E+000	4.472527E-004
I-131E	1.864023E+005	1.504705E+004	3.866121E+005	2.589142E+002	9.791711E+000	3.113959E+006	3.452817E-003
I-131O	1.196992E+004	1.134020E+004	2.482649E+004	1.419619E+001	1.392215E+001	9.630800E+004	1.311139E-004
I-131P	5.224947E+006	9.403472E+005	1.083693E+007	5.259866E+003	6.230092E+003	6.099507E+007	2.292208E-002
I-132E	1.459579E+005	1.178330E+004	3.027274E+005	2.027445E+002	7.667449E+000	2.438300E+006	2.704005E-003
I-132O	9.373167E+003	8.881622E+003	1.944064E+004	1.111669E+001	1.090181E+001	7.541132E+004	1.026803E-004
I-132P	4.091287E+006	7.364006E+005	8.485632E+006	4.118822E+003	4.878505E+003	4.776050E+007	1.795130E-002
I-133E	3.509301E+005	2.832856E+004	7.278549E+005	4.874464E+002	1.843442E+001	5.862489E+006	6.500528E-003
I-133O	2.253525E+004	2.135008E+004	4.673977E+004	2.672661E+001	2.621062E+001	1.813141E+005	2.468450E-004
I-133P	9.836744E+006	1.770364E+006	2.040214E+007	9.902530E+003	1.172912E+004	1.148322E+008	4.315487E-002
I-134E	8.285487E+004	6.689929E+003	1.718471E+005	1.150978E+002	4.352787E+000	1.384121E+006	1.535293E-003
I-134O	5.321177E+003	5.043561E+003	1.103652E+004	6.311181E+000	6.188924E+000	4.280787E+004	5.830123E-005
I-134P	2.322487E+006	4.181047E+005	4.817011E+006	2.338295E+003	2.769512E+003	2.711165E+007	1.019278E-002
I-135E	2.831809E+005	2.286006E+004	5.873382E+005	3.933457E+002	1.487568E+001	4.730695E+006	5.245729E-003
I-135O	1.818487E+004	1.722922E+004	3.771677E+004	2.156721E+001	2.115069E+001	1.463101E+005	1.991969E-004
I-135P	9.377710E+006	1.428624E+006	1.646340E+007	7.990885E+003	9.464827E+003	9.266309E+007	3.482483E-002
Xe-133	5.373394E+007	4.451144E+007	1.114482E+008	4.501737E+004	5.694381E+004	0.000000E+000	1.328606E+001
Xe-135	1.847937E+007	1.530830E+007	3.832757E+007	1.548181E+004	1.958327E+004	0.000000E+000	4.569302E+000
Cs-134	1.337799E+006	2.424363E+005	2.774695E+006	1.391481E+003	1.641363E+003	0.000000E+000	6.637876E-003
Cs-136	3.907734E+005	7.081610E+004	8.104929E+005	4.064541E+002	4.794450E+002	0.000000E+000	1.938936E-003
Cs-137	6.852760E+005	1.241859E+005	1.421313E+006	7.127741E+002	8.407740E+002	0.000000E+000	3.400194E-003
Cs-138	6.024267E+005	1.092238E+005	1.249478E+006	6.267266E+002	7.392288E+002	0.000000E+000	2.990975E-003
Ba-139	2.741628E+005	4.786755E+004	5.686340E+005	2.362738E+002	2.858809E+002	0.000000E+000	5.199888E-004
Ba-140	7.390751E+005	1.290161E+005	1.532896E+006	6.368880E+002	7.706220E+002	0.000000E+000	1.401371E-003
La-140	7.376105E+003	1.287611E+003	1.529859E+004	6.356273E+000	7.690961E+000	0.000000E+000	1.398606E+005
La-141	4.873429E+003	8.507800E+002	1.010785E+004	4.199723E+000	5.081546E+000	0.000000E+000	9.241493E-006
La-142	2.694547E+003	4.704474E+002	5.588689E+003	2.322147E+000	2.809700E+000	0.000000E+000	5.110457E-006
Ce-141	1.717861E+004	2.998768E+003	3.562970E+004	1.480343E+001	1.791186E+001	0.000000E+000	3.257259E-005
Ce-143	1.572354E+004	2.744785E+003	3.261178E+004	1.354958E+001	1.639472E+001	0.000000E+000	2.981395E-005
Ce-144	1.346583E+004	2.350650E+003	2.792913E+004	1.160399E+001	1.404061E+001	0.000000E+000	2.553273E-005
Pr-143	6.396497E+003	1.116599E+003	1.326681E+004	5.512095E+000	6.669527E+000	0.000000E+000	1.212849E-005
Nd-147	2.855476E+003	4.984639E+002	5.922468E+003	2.460668E+000	2.977360E+000	0.000000E+000	5.413311E-006
Np-238	5.789677E+003	1.010674E+003	1.200822E+004	4.989184E+000	6.036812E+000	0.000000E+000	1.097796E+005
Np-239	2.142393E+005	4.214413E+004	5.007311E+005	2.080441E+002	2.517292E+002	0.000000E+000	4.577701E-004
Pu-238	7.139292E+001	1.246264E+001	1.480742E+002	6.152186E-002	7.444026E-002	0.000000E+000	1.353690E-007
Pu-239	5.146328E+000	8.983638E-001	1.067386E+001	4.434777E-003	5.365993E-003	0.000000E+000	9.758016E-009
Pu-240	7.794840E+000	1.360699E+000	1.616708E+001	6.717096E-003	8.127555E-003	0.000000E+000	1.477989E-008
Pu-241	2.090908E+003	3.649973E+002	4.336698E+003	1.801811E+000	2.180156E+000	0.000000E+000	3.964596E-006
Am-241	1.074474E+000	1.875646E-001	2.228539E+000	9.259134E-004	1.120337E-003	0.000000E+000	2.037324E-009
Cm-242	3.267455E+002	5.703802E+001	6.776943E+002	2.815684E-001	3.406923E-001	0.000000E+000	6.195462E-007
Cm-244	6.898880E+001	1.204297E+001	1.430879E+002	5.945015E-002	7.193352E-002	0.000000E+000	1.308105E-007

Time = 10080.000000 Seconds  
CPU ClockTime = 20.710000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
LPZ	0.75829	0.75829	14.24952	0.71683	1.47512	6.21242 ending at	10080.0 Sec
ControlRoom	0.08591	0.08591	31.15120	1.47703	1.56295		
Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.236437E+002	1.404510E+001	1.977198E+001	2.355585E-001	1.463695E-001	0.000000E+000	6.469533E-007
Co-60	1.481491E+002	1.682875E+001	2.369066E+001	2.822447E-001	1.753790E-001	0.000000E+000	7.751754E-007
Br-82E	6.279914E+002	4.712686E+000	1.196495E+001	1.820649E+000	1.207433E-002	2.098480E+004	2.061886E-005
Br-82O	8.060635E+001	1.462367E+002	9.749645E+001	1.329566E-001	1.027104E-001	6.490143E+002	9.067411E-007
Br-82P	1.513359E+004	1.721140E+003	2.422930E+003	2.156055E+001	1.961741E+001	4.110424E+005	1.149739E-004
Br-83E	5.290183E+003	3.970481E+001	1.008027E+002	1.533765E+001	1.017176E-001	1.767746E+005	1.737146E-004
Br-83O	6.790525E+002	1.232223E+003	8.215331E+002	1.120123E+000	8.652699E-001	5.467256E+003	6.739488E-006
Br-83P	1.274854E+005	1.450140E+004	2.041393E+004	2.708962E+002	1.652624E+002	3.462595E+006	9.686835E-004
Br-84E	5.188615E+002	3.896207E+000	9.890565E+000	1.504519E+000	9.977888E-003	1.733778E+004	1.704603E-005
Br-84O	6.661141E+001	1.209788E+002	8.065980E+001	1.098987E-001	8.488074E-002	5.362200E+002	7.496990E-007
Br-84P	1.250395E+004	1.423249E+003	2.003397E+003	2.657489E+001	1.621113E+001	3.396060E+005	9.506282E-005
Kr-85	3.883232E+005	6.767565E+005	4.511978E+005	4.602454E+002	4.646612E+002	0.000000E+000	1.673134E-001
Kr-85m	5.881865E+006	1.025177E+007	6.834950E+006	6.971372E+003	7.038036E+003	0.000000E+000	2.534427E+000
Kr-87	3.532741E+006	6.159352E+006	4.106540E+006	4.187536E+003	4.227244E+003	0.000000E+000	1.522550E+000
Kr-88	1.120800E+007	1.953638E+007	1.302511E+007	1.328438E+004	1.341117E+004	0.000000E+000	4.829640E+000
Rb-86	5.153399E+003	5.862488E+002	8.252913E+002	1.121118E+001	6.813996E+000	0.000000E+000	4.196329E+005
Sr-89	1.807318E+005	2.052994E+004	2.890101E+004	3.443195E+002	2.139505E+002	0.000000E+000	9.456617E-004
Sr-90	2.048040E+004	2.318218E+003	3.263470E+003	3.888018E+001	2.415906E+001	0.000000E+000	1.067831E-004
Sr-91	1.898265E+005	2.156403E+004	3.035660E+004	3.616508E+002	2.247187E+002	0.000000E+000	9.932903E-004
Sr-92	1.181351E+005	1.342156E+004	1.889387E+004	2.250745E+002	1.398528E+002	0.000000E+000	6.182224E-004
Y-90	2.042032E+002	2.319628E+001	3.265453E+001	3.890364E-001	2.417363E-001	0.000000E+000	1.068480E-006
Y-91	2.302496E+003	2.615482E+002	3.681944E+002	4.386577E+000	2.725697E+000	0.000000E+000	1.204758E-005
Y-92	1.405728E+003	1.597014E+002	2.248165E+002	2.678205E+000	1.664141E+000	0.000000E+000	7.356172E-006
Y-93	2.296149E+003	2.608386E+002	3.671937E+002	4.374539E+000	2.718205E+000	0.000000E+000	1.201485E-005
Zr-95	3.014304E+003	3.424050E+002	4.820204E+002	5.742672E+000	3.568337E+000	0.000000E+000	1.577205E-005
Zr-97	2.643103E+003	3.002468E+002	4.226712E+002	5.035520E+000	3.128924E+000	0.000000E+000	1.383011E-005
Nb-95	3.020798E+003	3.431427E+002	4.830589E+002	5.755043E+000	3.576024E+000	0.000000E+000	1.580603E-005
Mo-99	4.037622E+004	4.586500E+003	6.456639E+003	7.692249E+001	4.779747E+001	0.000000E+000	2.112658E-004
Tc-99m	2.627001E+004	2.984319E+003	4.201140E+003	5.004911E+001	3.109890E+001	0.000000E+000	1.374645E-004
Ru-103	3.650931E+004	4.147216E+003	5.838242E+003	6.955536E+001	4.321976E+001	0.000000E+000	1.910314E-004
Ru-105	1.718700E+004	1.952524E+003	2.748636E+003	3.274459E+001	2.034637E+001	0.000000E+000	8.993747E-005
Ru-106	1.592928E+004	1.809460E+003	2.547266E+003	3.034750E+001	1.885709E+001	0.000000E+000	8.334836E-005
Rh-105	2.364331E+004	2.685756E+003	3.780867E+003	4.504398E+001	2.798904E+001	0.000000E+000	1.237127E-004
Sb-125	8.993840E+003	1.021640E+003	1.438214E+003	1.713452E+001	1.064692E+001	0.000000E+000	4.705937E-005
Sb-127	3.540988E+005	4.022345E+004	5.662452E+004	6.746086E+002	4.191828E+002	0.000000E+000	1.852795E-003
Sb-129	9.645989E+004	1.095831E+004	1.542639E+004	1.837749E+002	1.141915E+002	0.000000E+000	5.047631E-004

I-131O	1.192643E+004	2.163673E+004	1.442526E+004	1.967206E+001	1.519690E+001	9.602769E+004	1.341596E-004
I-131P	2.239153E+006	2.546558E+005	3.584915E+005	4.757770E+003	2.902571E+003	6.081754E+007	1.701130E-002
I-132E	5.721788E+004	4.294449E+002	1.090274E+003	1.658902E+002	1.100166E+000	1.911969E+006	1.878886E-003
I-132O	7.344553E+003	1.332776E+004	8.885724E+003	1.211515E+001	9.358663E+000	5.913306E+004	8.262832E-005
I-132P	1.378865E+006	1.568466E+005	2.207961E+005	2.929984E+003	1.787459E+003	3.745094E+007	1.047723E-002
I-133E	1.708200E+005	1.281907E+003	3.254602E+003	4.952359E+002	3.284345E+000	5.708075E+006	5.608575E-003
I-133O	2.192578E+004	3.977840E+004	2.652039E+004	3.616571E+001	2.793832E+001	1.765384E+005	2.466446E-004
I-133P	4.116489E+006	4.681715E+005	6.590667E+005	8.746794E+003	5.336143E+003	1.118077E+008	3.127430E-002
I-134E	2.200905E+004	1.652271E+002	4.194553E+002	6.381431E+001	4.232113E-001	7.354397E+005	7.228839E-004
I-134O	2.825308E+003	5.129043E+003	3.419621E+003	4.660885E+000	3.600146E+000	2.274556E+004	3.179172E-005
I-134P	5.303886E+005	6.035086E+004	8.495425E+004	1.127137E+003	6.875963E+002	1.440552E+007	4.031204E-003
I-135E	1.301109E+005	9.764431E+002	2.479048E+003	3.772170E+002	2.501660E+000	4.347747E+006	4.272108E-003
I-135O	1.670070E+004	3.030076E+004	2.020165E+004	2.754752E+001	2.128045E+001	1.344664E+005	1.878727E-004
I-135P	3.135469E+006	3.566159E+005	5.020221E+005	6.662392E+003	4.064496E+003	8.516205E+007	2.382211E-002
Xe-133	5.345673E+007	9.316081E+007	6.211089E+007	6.335617E+004	6.396397E+004	0.000000E+000	2.303196E+001
Xe-135	1.737397E+007	3.027994E+007	2.018786E+007	2.059176E+004	2.078900E+004	0.000000E+000	7.485912E+000
Cs-134	5.749463E+005	6.540562E+004	9.207473E+004	1.250791E+003	7.602130E+002	0.000000E+000	4.681691E-003
Cs-136	1.676534E+005	1.907220E+004	2.684887E+004	3.647286E+002	2.216769E+002	0.000000E+000	1.365175E-003
Cs-137	2.945196E+005	3.350441E+004	4.716581E+004	6.407248E+002	3.894235E+002	0.000000E+000	2.398223E-003
Cs-138	9.216569E+004	1.049343E+004	1.477080E+004	2.005534E+002	1.218831E+002	0.000000E+000	7.510146E-004
Ba-139	7.921512E+004	9.001175E+003	1.267097E+004	1.509297E+002	9.378052E+001	0.000000E+000	4.160518E-004
Ba-140	3.170673E+005	3.601678E+004	5.070260E+004	6.040578E+002	3.753447E+002	0.000000E+000	1.659025E-003
La-140	3.126791E+003	3.551865E+002	5.000131E+002	5.956993E+000	3.701506E+000	0.000000E+000	1.636079E-005
La-141	1.817004E+003	2.064231E+002	2.905885E+002	3.461760E+000	2.151017E+000	0.000000E+000	9.508278E-006
La-142	8.079982E+002	9.180971E+001	1.292411E+002	1.539477E+000	9.565607E-001	0.000000E+000	4.228879E-006
Ce-141	7.377835E+003	8.380733E+002	1.179797E+003	1.405581E+001	8.733889E+000	0.000000E+000	3.860381E-005
Ce-143	6.645553E+003	7.549007E+002	1.062710E+003	1.266076E+001	7.867032E+000	0.000000E+000	3.477262E-005
Ce-144	5.786921E+003	6.573556E+002	9.253921E+002	1.102489E+001	6.850562E+000	0.000000E+000	3.027949E-005
Pr-143	2.744433E+003	3.117497E+002	4.388655E+002	5.228531E+000	3.248863E+000	0.000000E+000	1.435999E-005
Nd-147	1.224657E+003	1.391131E+002	1.958364E+002	2.333144E+000	1.449751E+000	0.000000E+000	6.407907E-006
Np-238	2.461307E+003	2.795905E+002	3.935930E+002	4.689145E+002	2.913702E+000	0.000000E+000	1.287864E-005
Np-239	1.027473E+005	1.167150E+004	1.643054E+004	1.957485E+002	1.216326E+002	0.000000E+000	5.376191E-004
Pu-238	3.068347E+001	3.485437E+000	4.906623E+000	5.845630E-002	3.632312E-002	0.000000E+000	1.605482E-007
Pu-239	2.211806E+000	2.512464E-001	3.536921E-001	4.213800E-003	2.618338E-003	0.000000E+000	1.157306E-008
Pu-240	3.350093E+000	3.805482E-001	5.357166E-001	6.382396E-003	3.965843E-003	0.000000E+000	1.752903E-008
Pu-241	8.986335E+002	1.020788E+002	1.437013E+002	1.712022E+000	1.063803E+000	0.000000E+000	4.702010E-008
Am-241	4.617912E-001	5.245640E-002	7.384547E-002	8.797768E-004	5.466688E-004	0.000000E+000	2.416276E-009
Cm-242	1.404098E+002	1.594962E+001	2.245308E+001	2.675004E-001	1.662173E-001	0.000000E+000	7.346807E-007
Cm-244	2.965014E+001	3.368058E+000	4.741382E+000	5.648766E-002	3.509986E-002	0.000000E+000	1.551414E-007

Time = 10800.000000 Seconds  
CPU ClockTime = 21.860000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	0.82899	14.51528	0.73457	1.56356	ending at	10800.0 Sec
ControlRoom		0.10165	32.22129	1.54028	1.64193		
Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.000961E+002	6.378435E+000	8.979121E+000	2.180971E-001	1.214391E-001	0.000000E+000	6.408588E-007
Co-60	1.199439E+002	7.643201E+000	1.075957E+001	2.613431E-001	1.455190E-001	0.000000E+000	7.679333E-007
Br-82E	5.259509E+002	9.536155E+000	7.077321E+000	1.790615E+000	1.011241E-002	2.090234E+004	2.000773E-005
Br-82O	8.027505E+001	1.456623E+002	9.710868E+001	1.388714E-001	1.041483E-001	6.464640E+002	9.217940E-007
Br-82P	1.220442E+004	7.786401E+002	1.096114E+003	2.951121E+001	1.608479E+001	4.094272E+005	1.070988E-004
Br-83E	4.198380E+003	7.613413E+001	5.650316E+001	1.429401E+001	8.072487E-002	1.668513E+005	1.597311E-004
Br-83O	6.408173E+002	1.163106E+003	7.754134E+002	1.108643E+000	8.314000E-001	5.160348E+003	7.359311E-006
Br-83P	9.742160E+004	6.216805E+003	8.751416E+003	2.355847E+002	1.284008E+002	3.268221E+006	8.550429E-004
Br-84E	3.358552E+002	6.094147E+000	4.522701E+000	1.143622E+000	6.458613E-003	1.334728E+004	1.278405E-005
Br-84O	5.127068E+001	9.315418E+001	6.210532E+001	8.872045E-002	6.652140E-002	4.128024E+002	5.890606E-007
Br-84P	7.793484E+003	4.977294E+002	7.006059E+002	1.884979E+001	1.027300E+001	2.614415E+005	6.844018E-005
Kr-85	3.882573E+005	6.767486E+005	4.511679E+005	4.843058E+002	4.756476E+002	0.000000E+000	1.863147E-001
Kr-85m	5.701549E+006	9.939555E+006	6.626430E+006	7.112351E+003	6.984941E+003	0.000000E+000	2.736274E+000
Kr-87	3.166812E+006	5.522856E+006	3.681978E+006	3.950878E+003	3.879738E+003	0.000000E+000	1.520155E+000
Kr-88	1.067200E+007	1.860621E+007	1.240429E+007	1.331305E+004	1.307428E+004	0.000000E+000	5.121946E+000
Rb-86	4.170997E+003	2.661781E+002	3.747071E+002	1.031595E+001	5.597929E+000	0.000000E+000	3.888551E-005
Sr-89	1.463072E+005	9.323153E+003	1.312449E+004	3.187855E+002	1.775035E+002	0.000000E+000	9.367226E-004
Sr-90	1.652273E+004	1.052880E+003	1.482171E+003	3.600100E+001	2.004579E+001	0.000000E+000	1.057857E-004
Sr-91	1.514607E+005	9.652102E+003	1.358749E+004	3.300188E+002	1.837575E+002	0.000000E+000	9.697587E-004
Sr-92	9.087478E+004	5.791994E+003	8.153425E+003	1.980145E+001	1.102550E+002	0.000000E+000	5.819074E-004
Y-90	1.649695E+002	1.051246E+001	1.479870E+001	3.594919E-001	2.001454E-001	0.000000E+000	1.056213E-006
Y-91	1.863960E+003	1.187774E+002	1.672066E+002	4.061341E+000	2.261403E+000	0.000000E+000	1.193389E-005
Y-92	1.094396E+003	6.974912E+001	9.181668E+001	2.384643E+000	1.327781E+000	0.000000E+000	7.007068E-006
Y-93	1.833910E+003	1.168687E+002	1.645190E+002	3.995917E+000	2.224964E+000	0.000000E+000	1.174196E-005
Zr-95	2.440217E+003	1.554983E+002	2.188998E+002	5.316936E+000	2.960533E+000	0.000000E+000	1.562334E-005
Zr-97	2.122321E+003	1.352453E+002	1.903885E+002	4.624313E+000	2.574866E+000	0.000000E+000	1.358835E-005
Nb-95	2.445291E+003	1.558217E+002	2.193550E+002	5.327990E+000	2.966688E+000	0.000000E+000	1.565582E-005
Mo-99	3.262069E+004	2.078710E+003	2.926262E+003	7.107665E+001	3.957630E+001	0.000000E+000	2.088532E-004
Tc-99m	2.078372E+004	1.324524E+003	1.864559E+003	4.528616E+001	2.521568E+001	0.000000E+000	1.330754E-004
Ru-103	2.955428E+004	1.883292E+003	2.651168E+003	4.639517E+001	3.585600E+001	0.000000E+000	1.892195E-004
Ru-105	1.348717E+004	8.595505E+002	1.210003E+003	2.938776E+001	1.636328E+001	0.000000E+000	8.635866E-005
Ru-106	1.289644E+004	8.218015E+002	1.156876E+003	2.809977E+001	1.564629E+001	0.000000E+000	8.256864E-005
Rh-105	1.906725E+004	1.215044E+003	1.710452E+003	4.154537E+001	2.313292E+001	0.000000E+000	1.220783E-004
Sb-125	7.281539E+003	4.640024E+002	6.531906E+002	1.586558E+001	8.834146E+000	0.000000E+000	4.661959E-005
Sb-127	2.862541E+005	1.824111E+004	2.567857E+004	6.237136E+002	3.472910E+002	0.000000E+000	1.832732E-003
Sb-129	7.567356E+004	4.822755E+003	6.789068E+003	1.648883E+002	9.181082E+001	0.000000E+000	4.845399E-004
Te-127	3.375113E+004	2.150853E+003	3.027807E+003	7.354061E+001	4.094809E+001	0.000000E+000	2.160988E-004
Te-127m	5.628507E+003	3.586661E+002	5.049054E+002	1.226383E+001	6.828646E+000	0.000000E+000	3.603616E-005
Te-129	1.960266E+004	1.249732E+003	1.759214E+003	4.271658E+001	2.378417E+001	0.000000E+000	1.255488E-004
Te-129m	2.601942E+004	1.658040E+003	2.334074E+003	5.669315E+001	3.156742E+001	0.000000E+000	1.665878E-004
Te-131m	5.011258E+004	3.193384E+003	4.495419E+003	1.091896E+002	6.079800E+001	0.000000E+000	3.208466E-004
Te-132	4.987240E+005	3.178047E+004	4.473833E+004	1.086660E+003	6.050651E+002	0.000000E+000	3.193065E-003
Te-133m	2.780662E+004	1.772975E+003	2.495742E+003	6.059575E+001	3.373877E+001	0.000000E+000	1.781086E-004
Te-134	3.048272E+004	1.943973E+003	2.736404E+003	6.643045E+001	3.698686E+001	0.000000E+000	1.952772E-004
I-131E	7.806936E+004	1.415483E+003	1.050510E+003	2.657888E+002	1.501029E+000	3.102633E+006	2.969819E-003
I-131O	1.191558E+004	2.162094E+004	1.441402E+004	2.061321E+001	1.545917E+001	9.595771E+004	1.368250E-004
I-131P	1.811559E+00						

I-134P	3.666053E+005	2.340361E+004	3.294419E+004	8.866076E+002	4.832115E+002	1.229839E+007	3.218496E-003
I-135E	1.071142E+005	1.942214E+003	1.441425E+003	3.646773E+002	2.059498E+000	4.256924E+006	4.074901E-003
I-135O	1.634887E+004	2.966826E+004	1.977898E+004	2.828316E+001	2.121097E+001	1.316574E+005	1.877400E-004
I-135P	2.485531E+006	1.585873E+005	2.232466E+005	6.010300E+003	3.275836E+003	8.338305E+007	2.181261E-002
Xe-133	5.338762E+007	9.305736E+007	6.203855E+007	6.659496E+004	6.540433E+004	0.000000E+000	2.561943E+001
Xe-135	1.710801E+007	2.982222E+007	1.988162E+007	2.134075E+004	2.095885E+004	0.000000E+000	8.210060E+000
Cs-134	4.654838E+005	2.970547E+004	4.181732E+004	1.151261E+003	6.247295E+002	0.000000E+000	4.339625E-003
Cs-136	1.356758E+005	8.658347E+003	1.218862E+004	3.355611E+002	1.820916E+002	0.000000E+000	1.264883E-003
Cs-137	2.384485E+005	1.521691E+004	2.142132E+004	5.897443E+002	3.200236E+002	0.000000E+000	2.223014E-003
Cs-138	5.763214E+004	3.681627E+003	5.182279E+003	1.425736E+002	7.736050E+001	0.000000E+000	5.376783E-004
Ba-139	5.807125E+004	3.701931E+003	5.211145E+003	1.265419E+002	7.045775E+001	0.000000E+000	3.719059E-004
Ba-140	2.565874E+005	1.635058E+004	2.301721E+004	5.590728E+002	3.112983E+002	0.000000E+000	1.642786E-003
La-140	2.522809E+003	1.607635E+002	2.263115E+002	5.496911E+000	3.060742E+000	0.000000E+000	1.615229E+005
La-141	1.419708E+003	9.048093E+001	1.273712E+002	3.093474E+000	1.722463E+000	0.000000E+000	9.090540E-006
La-142	5.978554E+002	3.811075E+001	5.364802E+001	1.302764E+000	7.253729E-001	0.000000E+000	3.828743E-006
Ce-141	5.972172E+003	3.805657E+002	5.357341E+002	1.301264E+001	7.245590E+000	0.000000E+000	3.823647E-005
Ce-143	5.357891E+003	3.414272E+002	4.806370E+002	1.167424E+001	6.500345E+000	0.000000E+000	3.430398E+005
Ce-144	4.685104E+003	2.985495E+002	4.202774E+002	1.020827E+001	5.684086E+000	0.000000E+000	2.999608E-005
Pr-143	2.220999E+003	1.415292E+002	1.992351E+002	4.839288E+000	2.694572E+000	0.000000E+000	1.421982E+005
Nd-147	9.909840E+002	6.314873E+001	8.889641E+001	2.159234E+000	1.202287E+000	0.000000E+000	6.344722E-006
Np-238	1.987290E+003	1.266377E+002	1.782717E+002	4.330074E+000	2.411034E+000	0.000000E+000	1.272360E+005
Np-239	8.298239E+004	5.287948E+003	7.444003E+003	1.808089E+002	1.006765E+002	0.000000E+000	5.312933E-004
Pu-238	2.484191E+001	1.583004E+000	2.228444E+000	5.412748E+002	3.013883E-002	0.000000E+000	1.590487E+007
Pu-239	1.790720E+000	1.141103E-001	1.606365E-001	3.901760E-003	2.172546E-003	0.000000E+000	1.146497E-008
Pu-240	2.712298E+000	1.728361E-001	2.433087E-001	5.909766E-003	3.290628E-003	0.000000E+000	1.736532E-008
Pu-241	7.2175497E+002	4.636174E+001	6.526486E+001	1.585242E+000	8.826816E-001	0.000000E+000	4.658091E-006
Am-241	3.738748E+001	2.382447E-002	3.353845E-002	8.146275E-004	4.535943E-004	0.000000E+000	2.393710E+009
Cm-242	1.136744E+002	7.243690E+000	1.019717E+001	2.476827E-001	1.379127E-001	0.000000E+000	7.277933E-007
Cm-244	2.400529E+001	1.529692E+000	2.153395E+000	5.230459E-002	2.912382E-002	0.000000E+000	1.536923E-007

Time = 18000.000000 Seconds  
CPU ClockTime = 34.830000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	1.47869	16.12516	0.83676	2.31545	ending at	14044.0 Sec
	ControlRoom	0.28764	39.59288	1.96734	2.25499		
Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.210231E+001	2.992179E+000	2.153595E+000	7.233529E-002	1.713730E-002	0.000000E+000	3.145920E-007
Co-60	1.451345E+001	3.588308E+000	2.582653E+000	8.474666E-002	2.055157E-002	0.000000E+000	3.772681E-007
Br-82E	8.930185E+001	9.581576E+000	6.387721E+000	1.480305E+000	1.716998E-003	2.009535E+004	1.531097E-005
Br-82O	7.703604E+001	1.400133E+002	9.334225E+001	1.652031E-001	1.122494E-001	6.215055E+002	1.119397E-006
Br-82P	1.419937E+003	3.514994E+002	2.529887E+002	9.156043E+000	2.083446E+000	3.936202E+005	4.140530E-005
Br-83E	4.160948E+002	4.467154E+001	2.978126E+001	6.897600E+000	8.000514E-003	9.363225E+004	7.135000E-005
Br-83O	3.589573E+002	6.528769E+002	4.352548E+002	7.699064E-001	5.230507E-001	2.895843E+003	5.216965E-006
Br-83P	6.616107E+003	1.638861E+003	1.179562E+003	4.266456E+001	9.708027E+000	1.834034E+006	1.929573E-004
Br-84E	4.336693E+000	4.666482E-001	3.111101E-001	7.189873E-002	8.339613E-005	9.758536E+002	7.440224E-007
Br-84O	3.741741E+000	6.824139E+000	4.549591E+000	8.030404E-003	5.452763E-003	3.018104E+001	5.442157E-008
Br-84P	6.895647E+001	7.112341E+001	1.232471E+001	4.447729E-001	1.011955E-001	1.911466E+004	2.012361E-006
Kr-85	3.875075E+005	6.765230E+005	4.510153E+005	6.150329E+002	5.509263E+002	0.000000E+000	3.516593E-001
Kr-85m	4.176105E+006	7.293770E+006	4.862535E+006	6.289222E+003	5.937341E+003	0.000000E+000	3.790315E+000
Kr-87	1.061026E+006	1.855057E+006	1.236723E+006	1.684738E+003	1.508567E+003	0.000000E+000	9.633546E-001
Kr-88	6.537619E+006	1.142098E+007	7.614035E+006	1.037820E+004	9.294891E+003	0.000000E+000	5.934159E+000
Rb-86	5.031533E+002	1.245821E+002	8.966690E+001	3.299126E+000	7.442143E-001	0.000000E+000	1.503924E-005
Sr-89	1.768376E+004	4.372140E+003	3.146810E+003	1.056955E+002	2.504084E+001	0.000000E+000	4.596784E-004
Sr-90	1.999332E+003	4.943150E+002	3.557789E+002	1.194997E+001	2.831126E+000	0.000000E+000	5.197138E-005
Sr-91	1.583911E+004	3.916756E+003	2.819055E+003	9.467161E+001	2.242896E+001	0.000000E+000	4.117463E-004
Sr-92	6.593054E+003	1.631080E+003	1.173961E+003	3.940883E+001	9.336315E+000	0.000000E+000	1.714095E-004
Y-90	1.953501E+001	4.829965E+000	3.476326E+000	1.167607E-001	2.766232E-002	0.000000E+000	5.078038E-007
Y-91	2.253270E+002	5.570993E+001	4.009674E+001	1.346776E+000	3.190711E-001	0.000000E+000	5.857236E-006
Y-92	8.951725E+001	2.214278E+001	1.593713E+001	3.506666E-001	1.267629E-001	0.000000E+000	2.327228E-006
Y-93	1.937127E+002	4.790146E+001	3.447670E+001	1.157835E+000	2.743066E-001	0.000000E+000	5.035635E-006
Zr-95	2.950137E+002	7.293930E+001	5.249742E+001	1.763292E+000	4.177500E-001	0.000000E+000	7.668698E-006
Zr-97	2.364720E+002	5.847121E+001	4.208418E+001	1.413402E+000	3.348546E-001	0.000000E+000	6.147098E-006
Nb-95	2.954056E+002	7.303625E+001	5.256720E+001	1.765634E+000	4.183050E-001	0.000000E+000	7.678886E-006
Mo-99	3.865171E+003	9.556495E+002	6.878206E+002	2.310211E+002	5.473228E+000	0.000000E+000	1.004733E-004
Tc-99m	1.996882E+003	4.938477E+002	3.554433E+002	1.193564E+001	2.827700E+000	0.000000E+000	5.191141E-005
Ru-103	3.570978E+003	8.828904E+002	6.354527E+002	2.134367E+001	5.056633E+000	0.000000E+000	9.282536E-005
Ru-105	1.194338E+003	2.954003E+002	2.126124E+002	7.138789E+000	1.691260E+000	0.000000E+000	3.104908E-005
Ru-106	1.560300E+003	3.857688E+002	2.776537E+002	9.325886E+000	2.209441E+000	0.000000E+000	4.055902E-005
Rh-105	2.218638E+003	5.485622E+002	3.948230E+002	1.326082E+001	3.141678E+000	0.000000E+000	5.767279E-005
Sb-125	8.810568E+002	2.178326E+002	1.567831E+002	5.266061E+000	1.247608E+000	0.000000E+000	2.290252E-005
Sb-127	3.412122E+004	8.436286E+003	6.071944E+003	2.039423E+002	4.831691E+001	0.000000E+000	8.869637E-004
Sb-129	6.682176E+003	1.652734E+003	1.189544E+003	3.994066E+001	9.462397E+000	0.000000E+000	1.737160E-004
Te-127	3.524074E+003	8.714484E+002	6.272182E+002	2.106368E+001	4.990263E+000	0.000000E+000	9.161028E-005
Te-127m	6.807202E+002	1.683014E+002	1.211335E+002	4.068653E+000	9.639243E-001	0.000000E+000	1.769490E-005
Te-129	7.179652E+002	1.777677E+002	1.279481E+002	4.291841E+000	1.016744E+000	0.000000E+000	1.866998E-005
Te-129m	3.143088E+003	7.770990E+002	5.593103E+002	1.878619E+001	4.450726E+000	0.000000E+000	8.170265E-005
Te-131m	5.809921E+003	1.436520E+003	1.033923E+003	3.472596E+001	8.227080E+000	0.000000E+000	1.510272E-004
Te-132	5.928854E+004	1.465882E+004	1.055056E+004	3.543673E+002	8.395480E+001	0.000000E+000	1.541177E-003
Te-133m	7.497273E+002	1.857010E+002	1.336584E+002	4.481862E+000	1.061746E+000	0.000000E+000	1.949778E-005
Te-134	5.090655E+002	1.261646E+002	9.080742E+001	3.043352E+000	7.209490E+001	0.000000E+000	1.324098E-005
I-131E	1.368766E+004	1.468555E+003	9.790368E+002	2.689202E+002	2.631708E-001	3.080098E+006	2.346756E-003
I-131O	1.180761E+004	2.145945E+004	1.430630E+004	2.532106E+001	1.720486E+001	9.526075E+004	1.715721E-004
I-131P	2.176396E+005	5.387366E+004	3.877510E+004	1.403379E+003	3.193377E+002	6.033181E+007	6.346297E-005
I-132E	4.352412E+003	4.672867E+002	3.115271E+002	7.215004E+001	8.368671E-002	9.794066E+005	7.463371E-004
I-132O	3.754754E+003	6.829480E+003	4.553025E+003	8.053423E+000	5.471206E+000	3.029092E+004	5.457093E-005
I-132P	6.920545E+004	1.714336E+004	1.233885E+004	4.462791E+002	1.015476E+002	1.918425E+007	2.018381E-003
I-133E	2.357028E+004	2.529033E+003	1.686024E+003	3.907115E+002	4.531843E-001	5.303953E+006	4.041195E-003
I-133O	2.033289E+004	3.695646E+004	2.463766E+004	4.360405E+001	2.962713E+001	1.640398E+005	2.954564E-004
I-133P	3.747774E+005	9.277765E+004	6.77594E+004	2.416648E+003	5.499046E+002	1.038919E+008	1.092858E-002
I-134E	5.738926E+002	6.168192E+001	4.112218E+001	9.140262E+000	1.103536E-002	1.291398E+005	9.843361E-005
I-134O	4.951227E+002	9.017482E+002	6.011786E+002	1.062283E+000	7.214970E-001	3.994015E+003	7.198578E-006
I-134P	9.125230E+003	2.263149E+003	1.628904E+003	5.885144E+001	1.339062E+001	2.529543E+006	2.662175E-004
I-135E	1.531715E+00						

Ba-139	2.603105E+003	6.443687E+002	4.637828E+002	1.556045E+001	3.686331E+000	0.000000E+000	6.768695E-005
Ba-140	3.090817E+004	7.641781E+003	5.500106E+003	1.847377E+002	4.376710E+001	0.000000E+000	8.034396E-004
La-140	2.949444E+002	7.292513E+001	5.248724E+001	1.762884E+000	4.176528E+001	0.000000E+000	7.666976E-006
La-141	1.204011E+002	2.978082E+001	2.143455E+001	7.196637E-001	1.704962E-001	0.000000E+000	3.130095E-006
La-142	2.940720E+001	7.278594E+000	5.238746E+000	1.757841E-001	4.164412E-002	0.000000E+000	7.646354E-007
Ce-141	7.213832E+002	1.783552E+002	1.283696E+002	4.311696E+000	1.021505E+000	0.000000E+000	1.875191E-005
Ce-143	6.217580E+002	1.537313E+002	1.106468E+002	3.716254E+000	8.804340E+001	0.000000E+000	1.616242E-005
Ce-144	5.668090E+002	1.401379E+002	1.008631E+002	3.387807E+000	8.026218E-001	0.000000E+000	1.473384E-005
Pr-143	2.676119E+002	6.616472E+001	4.762148E+001	1.599512E+000	3.789481E-001	0.000000E+000	6.956411E-006
Nd-147	1.192855E+002	2.949234E+001	2.122685E+001	7.129676E-001	1.689126E-001	0.000000E+000	3.100756E-006
Np-238	2.340007E+002	5.785627E+001	4.164156E+001	1.398622E+000	3.313540E+001	0.000000E+000	6.082753E-006
Np-239	9.798044E+003	2.422541E+003	1.743603E+003	5.856290E+001	1.387440E+001	0.000000E+000	2.546959E-004
Pu-238	3.006006E+000	7.432050E-001	5.349153E-001	1.796684E-002	4.256611E-003	0.000000E+000	7.813922E-008
Pu-239	2.166872E-001	5.357375E-002	3.855924E-002	1.295135E-003	3.068368E-004	0.000000E+000	5.632647E-009
Pu-240	3.282033E-001	8.114502E-002	5.840342E-002	1.961666E-003	4.647477E-004	0.000000E+000	8.531439E-009
Pu-241	8.803665E+001	2.176619E+001	1.566602E+001	5.261935E-001	1.246630E-001	0.000000E+000	2.288457E-006
Am-241	4.524094E-002	1.118537E-002	8.050575E-003	2.704043E-004	6.406279E-005	0.000000E+000	1.176010E-009
Cm-242	1.375037E+001	3.399643E+000	2.446863E+000	8.218569E-002	1.947101E-002	0.000000E+000	3.574321E-007
Cm-244	2.904750E+000	7.181705E-001	5.168970E-001	1.736164E-002	4.113230E-003	0.000000E+000	7.550714E-008

Time = 25200.000000 Seconds  
CPU ClockTime = 47.510000 Seconds

EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
LPZ	17.11150	98.87585	5.38777	22.49927	8.53380 ending at	14044.0 Sec
ControlRoom	1.96517	16.66465	0.86764	2.83282		
	0.47082	42.78479	2.13378	2.60460		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.362424E+000	9.898658E-001	7.124473E-001	2.026473E-002	5.094835E-003	0.000000E+000	9.827446E-008
Co-60	4.035490E+000	1.188008E+000	8.550586E-001	2.432117E-002	6.114683E-003	0.000000E+000	1.179463E-007
Br-82E	1.516267E+001	9.209973E+000	6.139985E+000	1.317266E+000	2.915312E-004	1.931951E+004	1.245769E-006
Br-82O	7.392771E+001	1.345831E+002	8.972215E+001	1.675987E-001	1.134975E-001	5.975107E+002	1.240735E-006
Br-82P	3.796244E+002	1.118995E+002	8.053872E+001	2.426190E+000	5.847368E-001	3.784234E+005	1.195492E-005
Br-83E	4.123850E+001	2.507508E+001	1.671685E+001	3.582745E+000	7.929183E-004	5.254379E+004	3.388648E-005
Br-83O	2.010719E+002	3.664736E+002	2.443177E+002	4.559862E-001	3.087055E-001	1.625066E+003	3.375593E-006
Br-83P	1.032483E+003	3.046760E+002	2.192890E+002	6.599136E+000	1.590395E+000	1.029208E+006	3.252019E-005
Br-84E	5.599707E-002	3.418490E-002	2.279076E-002	4.865596E-003	1.076843E-006	7.134715E+001	4.603871E-008
Br-84O	2.730727E-001	4.999109E-001	3.332860E-001	6.198916E-004	4.192989E-004	2.206613E+000	4.589422E-009
Br-84P	1.402011E+000	4.154598E-001	2.990304E-001	8.963603E-003	2.159898E-003	1.397521E+003	4.418916E-008
Kr-85	3.867592E+005	6.762962E+005	4.508642E+005	5.684123E+002	5.870749E+002	0.000000E+000	4.503989E-001
Kr-85m	3.058792E+006	5.352250E+006	3.568182E+006	5.208296E+003	4.643133E+003	0.000000E+000	3.562840E+000
Kr-87	3.554922E+005	6.230887E+005	4.153988E+005	6.056188E+002	5.396501E+002	0.000000E+000	4.142887E+001
Kr-88	4.004918E+006	7.010477E+006	4.673683E+006	6.820093E+003	6.079384E+003	0.000000E+000	4.665430E+000
Rb-86	1.394742E+002	4.112014E+001	2.959586E+001	9.030988E-001	2.156390E-001	0.000000E+000	4.465044E-006
Sr-89	4.911528E+003	1.445908E+003	1.040680E+003	2.960090E+001	7.442079E+000	0.000000E+000	1.435505E-004
Sr-90	5.559313E+002	1.636606E+002	1.177933E+002	3.350498E+000	8.423620E-001	0.000000E+000	1.624835E-005
Sr-91	3.806226E+003	1.120851E+003	8.067241E+002	2.293992E+001	5.767351E+000	0.000000E+000	1.125105E-004
Sr-92	1.099165E+003	3.239240E+002	2.331425E+002	6.624963E+000	1.665542E+000	0.000000E+000	3.213107E-005
Y-90	5.315656E+000	1.564946E+000	1.126356E+000	3.203660E-002	8.054435E-003	0.000000E+000	1.553632E-007
Y-91	6.259260E+001	1.842668E+001	1.326244E+001	3.727344E-001	9.484199E-002	0.000000E+000	1.829411E-006
Y-92	1.682565E+001	4.957298E+000	3.567984E+000	1.014110E-001	2.549535E-002	0.000000E+000	4.918320E-007
Y-93	4.701877E+001	1.384573E+001	9.965354E+000	2.833793E-001	7.124474E-002	0.000000E+000	1.374292E-006
Zr-95	8.195755E+001	2.412753E+001	1.736558E+001	4.939434E-001	1.241843E-001	0.000000E+000	2.395395E-006
Zr-97	6.054543E+001	1.782700E+001	1.283084E+001	3.649008E-001	9.174056E-002	0.000000E+000	1.769626E-006
Nb-95	8.200493E+001	2.414151E+001	1.737564E+001	4.942290E-001	1.242561E-001	0.000000E+000	2.396780E-006
Mo-99	1.052391E+003	3.098269E+002	2.229952E+002	6.342591E+000	1.594613E+000	0.000000E+000	3.075872E-005
Tc-99m	4.408742E+002	1.298506E+002	9.345902E+001	2.657159E+000	6.680347E-001	0.000000E+000	1.288654E-005
Ru-103	9.914868E+002	2.918847E+002	2.100815E+002	5.975513E+000	1.502327E+000	0.000000E+000	2.897845E-005
Ru-105	2.430339E+002	7.159274E+001	5.152839E+001	1.464788E+000	3.682592E-001	0.000000E+000	7.103956E-006
Ru-106	4.337898E+002	1.277034E+002	9.191344E+001	2.614373E+000	6.572899E-001	0.000000E+000	1.267849E-005
Rh-105	5.932225E+002	1.746529E+002	1.257049E+002	5.752655E+000	8.988689E-001	0.000000E+000	1.733849E-005
Sb-125	2.449726E+002	7.211751E+001	5.190595E+001	1.476406E+000	3.711891E-001	0.000000E+000	7.159878E-006
Sb-127	9.346098E+003	2.751483E+003	1.980356E+003	5.632737E+001	1.416147E+001	0.000000E+000	2.731622E-004
Sb-129	1.355891E+003	3.994196E+002	2.874796E+002	8.172085E+000	2.054526E+000	0.000000E+000	3.963314E-005
Te-127	8.455410E+002	2.489944E+002	1.792118E+002	5.096033E+000	1.281199E+000	0.000000E+000	2.471406E-005
Te-127m	1.891808E+002	5.569301E+001	4.008456E+001	1.140159E+000	2.866518E-001	0.000000E+000	5.529237E-006
Te-129	6.042612E+001	1.783266E+001	1.283503E+001	3.642409E-001	9.156668E-002	0.000000E+000	1.766796E-006
Te-129m	8.724661E+002	2.568462E+002	1.848628E+002	5.258197E+000	1.321984E+000	0.000000E+000	2.549980E-005
Te-131m	1.547842E+003	4.557095E+002	3.279930E+002	9.328625E+000	2.345339E+000	0.000000E+000	4.523983E-005
Te-132	1.619624E+004	4.768187E+003	3.431861E+003	9.761210E+000	2.454101E+001	0.000000E+000	4.733746E-004
Te-133m	4.645060E+001	1.371692E+001	8.872762E+000	2.800108E-001	7.039036E-002	0.000000E+000	1.358306E-006
Te-134	1.953559E+001	5.774575E+000	4.156271E+000	1.177715E-001	2.960482E-002	0.000000E+000	5.713503E-007
I-131E	2.399817E+003	1.457584E+003	9.717225E+002	2.084851E+002	4.614094E-002	3.057727E+006	1.971678E-003
I-131O	1.170061E+004	2.129913E+004	1.419942E+004	2.652557E+001	1.796333E+001	9.456886E+004	1.963690E-004
I-131P	6.008365E+004	1.770931E+004	1.274613E+004	3.839946E+002	9.254688E+001	5.989361E+007	1.892101E-003
I-132E	4.184441E+002	2.544501E+002	1.696349E+002	3.635393E+001	8.045703E-003	5.331579E+005	3.438464E-004
I-132O	2.040267E+003	3.718835E+003	2.479244E+003	4.626758E+000	3.132425E+000	1.648942E+004	3.425254E-005
I-132P	1.047653E+004	3.091719E+003	2.225250E+003	6.696127E+001	1.613766E+001	1.044330E+007	3.299835E-004
I-133E	3.893932E+003	2.365343E+003	1.576897E+003	3.382883E+002	7.486840E-002	4.961451E+006	3.199287E-003
I-133O	1.898544E+004	3.456448E+004	2.304301E+004	4.304177E+001	2.914745E+001	1.534469E+005	3.186391E-004
I-133P	9.749150E+004	2.873858E+004	2.068436E+004	6.230735E+002	1.501668E+002	9.718306E+007	3.070177E-003
I-134E	2.084678E+001	1.270078E+001	8.467370E+000	1.811259E+000	4.008621E-004	2.656159E+004	1.713476E-005
I-134O	1.016528E+002	1.856768E+002	1.237872E+002	2.306354E-001	1.560767E-001	8.214923E+002	1.707477E-006
I-134P	5.219416E+002	1.543387E+002	1.110854E+002	3.336482E+000	8.040324E-001	5.202785E+005	1.644512E-005
I-135E	2.190328E+003	1.330876E+003	8.872530E+002	1.902882E+002	4.211372E-002	2.790801E+006	1.799660E-003
I-135O	1.067938E+004	1.944874E+004	1.296587E+004	2.421294E+001	1.639569E+001	8.631344E+004	1.792497E-004
I-135P	5.483880E+004	1.617021E+004	1.163839E+004	3.504850E+002	8.446939E+001	5.466518E+007	1.727052E-003
Xe-133	5.202417E+007	9.097285E+007	6.064858E+007	8.856571E+004	7.896931E+004	0.000000E+000	6.058499E+001
Xe-135	1.256645E+007	2.198122E+007	1.465418E+007	2.139505E+004	1.907522E+004	0.000000E+000	1.463570E+001
Cs-134	1.565966E+004	4.616791E+003	3.322895E+003	1.013966E+002	2.421116E+001	0.000000E+000	5.013185E-004
Cs-136	4.525161E+003	1.334123E+003	9.602235E+002	2.930033E+001	6.996285E+000	0.000000E+000	1.448659E-004
Cs-137	8.022951E+003	2.365332E+003	1.702427E+003	5.194878E+001	1.240416E+001	0.000000E+000	2.568418E-004
Cs-138	1.106387E+001	3.279252E+000	2.360266E+000	7.166526E-002	1.710867E-002	0.000000E+000	3.544956E-007
Ba-139	2.681360E+002	7.909808E+001	5.693065E+001	1.61			

Np-238	6.331492E+001	1.864033E+001	1.341622E+001	3.815891E-001	9.593663E-002	0.000000E+000	1.850538E-006
Np-239	2.658433E+003	7.826558E+002	5.633098E+002	1.602196E+001	4.028136E+000	0.000000E+000	7.769935E-005
Pu-238	8.358485E-001	2.460655E-001	1.771035E-001	5.037508E-003	1.266500E-003	0.000000E+000	2.442956E-008
Pu-239	6.025204E-002	1.773760E-002	1.276648E-002	3.631282E-004	9.129550E-005	0.000000E+000	1.761002E-009
Pu-240	9.126023E-002	2.686610E-002	1.933664E-002	5.500090E-004	1.382799E-004	0.000000E+000	2.667286E-009
Pu-241	2.447920E+001	7.206434E+000	5.186768E+000	1.475318E-001	3.709154E-002	0.000000E+000	7.154600E-007
Am-241	1.257969E+002	3.703336E-003	2.665444E-003	7.581554E-005	1.906109E-005	0.000000E+000	3.676699E-010
Cm-242	3.822071E+000	1.125180E+000	8.098387E-001	2.303493E-002	5.791303E-003	0.000000E+000	1.117087E-007
Cm-244	8.076877E-001	2.377752E-001	1.711366E-001	4.867788E-003	1.223830E-003	0.000000E+000	2.360650E-008

Time = 28800.000000 Seconds  
CPU ClockTime = 53.720000 Seconds

EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
LPZ	19.00704	100.18575	5.45369	24.46073	8.53380 ending at	14044.0 Sec
ControlRoom	2.15473	16.79564	0.87424	3.02896		
	0.55030	43.68156	2.17429	2.72458		

Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.772330E+000	5.693387E-001	4.097766E-001	1.076590E-002	2.736097E-003	0.000000E+000	5.287649E-008
Co-60	2.127939E+000	6.835721E-001	4.919951E-001	1.292602E-002	3.285080E-003	0.000000E+000	6.348585E-008
Br-82E	1.485362E+001	9.029611E+000	6.019744E+000	1.273591E+000	7.386347E-003	1.894290E+004	1.154561E-005
Br-82O	7.242090E+001	1.319476E+002	8.796509E+001	1.661532E-001	1.128137E-001	5.858629E+002	1.267023E-006
Br-82P	1.962893E+002	6.313642E+001	4.544191E+001	1.254636E+000	3.064720E-001	3.710465E+005	6.240016E-006
Br-83E	3.086435E+001	1.878659E+001	1.252449E+001	2.646490E+000	1.534867E-002	3.936129E+004	2.399408E-005
Br-83O	1.504893E+002	2.745671E+002	1.830462E+002	3.453784E-001	2.344327E-001	1.217360E+003	2.633755E-006
Br-83P	4.078711E+002	1.313670E+002	9.455072E+001	2.607251E+000	6.368440E-001	7.709944E+005	1.296862E-005
Br-84E	1.512752E-002	9.252450E-003	6.168524E-003	1.297296E-003	7.523894E-006	1.929180E+001	1.176662E-008
Br-84O	7.377015E-002	1.353054E-001	9.020684E-002	1.695193E-004	1.149339E-004	5.966534E-001	1.292753E-009
Br-84P	1.999123E-001	6.471402E-002	4.657841E-002	1.278340E-003	3.121834E-004	3.778805E+002	6.360919E-009
Kr-85	3.863855E+005	6.761829E+005	4.507886E+005	6.685919E+002	5.972114E+002	0.000000E+000	4.801272E-001
Kr-85m	2.617817E+006	4.584886E+006	3.056604E+006	4.530913E+003	4.046272E+003	0.000000E+000	3.253715E+000
Kr-87	2.057700E+005	3.611156E+005	2.407474E+005	5.363668E+002	3.180678E+002	0.000000E+000	2.559101E-001
Kr-88	3.134589E+006	5.492496E+006	3.661689E+006	5.426108E+003	4.845085E+003	0.000000E+000	3.896561E+000
Rb-86	7.343288E+001	2.362403E+001	1.700319E+001	4.747394E-001	1.149497E-001	0.000000E+000	2.367520E-006
Sr-89	2.588437E+003	8.315035E+002	5.984674E+002	1.572329E+001	3.995991E+000	0.000000E+000	7.722460E-005
Sr-90	2.931496E+002	9.417041E+001	6.777833E+001	1.780717E+000	4.525600E-001	0.000000E+000	8.745953E-006
Sr-91	1.865849E+003	5.995961E+002	4.315546E+002	1.133425E+001	2.880498E+000	0.000000E+000	5.566941E-005
Sr-92	4.487980E+002	1.443534E+002	1.038976E+002	2.726430E+000	6.928720E-001	0.000000E+000	1.339205E-005
Y-90	2.772863E+000	8.907933E-001	6.411408E-001	1.684363E-002	4.280711E-003	0.000000E+000	8.272744E-008
Y-91	3.298966E+001	1.059752E+001	7.627471E+000	2.003935E-001	5.092896E-002	0.000000E+000	9.842284E-007
Y-92	7.294649E+000	2.345586E+000	1.688221E+000	4.431380E-002	1.126167E-002	0.000000E+000	2.176618E-007
Y-93	2.316476E+001	7.443880E+000	5.357674E+000	1.407160E-001	3.576174E-002	0.000000E+000	6.911407E-006
Zr-95	4.319787E+001	1.387677E+001	9.987687E+000	2.624026E-001	6.668824E-002	0.000000E+000	1.288785E-006
Zr-97	3.063601E+001	9.843426E+000	7.084725E+000	1.860990E-001	4.729568E-002	0.000000E+000	9.140347E-007
Nb-95	4.320655E+001	1.387962E+001	9.989735E+000	2.624559E-001	6.707179E-002	0.000000E+000	1.289047E-006
Mo-99	5.491379E+002	1.764125E+002	1.269714E+002	3.335713E+000	8.477522E-001	0.000000E+000	1.638334E-005
Tc-99m	2.071552E+002	6.658392E+001	4.792329E+001	1.258399E+000	3.198081E-001	0.000000E+000	6.180680E-006
Ru-103	5.224405E+002	1.678277E+002	1.207925E+002	3.713530E+000	8.065359E-001	0.000000E+000	1.558673E-005
Ru-105	1.096318E+002	3.524504E+001	2.536738E+001	6.659862E-001	1.692516E-001	0.000000E+000	3.271163E-006
Ru-106	2.867257E+002	7.347513E+001	5.288308E+001	1.389379E+000	3.531034E-001	0.000000E+000	6.823903E-006
Rh-105	3.067490E+002	9.854863E+001	7.092954E+001	1.863339E+000	4.735559E-001	0.000000E+000	9.151812E-006
Sb-125	1.291738E+002	4.149537E+001	2.986593E+001	7.846575E-001	1.994166E-001	0.000000E+000	3.853828E-006
Sb-127	4.891400E+003	1.571356E+003	1.130970E+003	2.971256E+001	7.551279E+000	0.000000E+000	1.459330E-004
Sb-129	6.107705E+002	1.963553E+002	1.413254E+002	3.710282E+000	9.429188E-001	0.000000E+000	1.822402E-005
Te-127	4.141708E+002	1.330955E+002	9.579448E+001	2.155916E+000	6.393972E-001	0.000000E+000	1.235720E-005
Te-127m	9.973126E+001	3.203739E+001	2.305863E+001	1.058109E-001	1.539636E-001	0.000000E+000	2.975427E-006
Te-129	1.753014E+001	5.648039E+000	4.065169E+000	1.065072E-001	2.706498E-002	0.000000E+000	5.232222E-006
Te-129m	4.596683E+002	1.476630E+002	1.062791E+002	2.792225E+000	7.096292E-001	0.000000E+000	1.371395E-005
Te-131m	7.989231E+002	2.566707E+002	1.847365E+002	4.853040E+000	1.233369E+000	0.000000E+000	2.383578E-005
Te-132	8.465178E+003	2.719446E+003	1.957298E+003	5.142131E+001	1.306843E+001	0.000000E+000	2.525554E-004
Te-133m	1.156206E+001	3.728015E+000	2.683242E+000	7.025084E-002	1.785117E-002	0.000000E+000	3.451303E-007
Te-134	3.826952E+000	1.235410E+000	8.891913E-001	2.325436E-002	5.908791E-003	0.000000E+000	1.142547E-007
I-131E	2.388919E+003	1.452129E+003	9.680859E+002	2.048322E+002	1.187949E+000	3.046602E+006	1.856872E-003
I-131O	1.164748E+004	2.121941E+004	1.414628E+004	2.672195E+001	1.814383E+001	9.422480E+004	2.037716E-004
I-131P	3.156934E+004	1.015347E+004	7.307871E+003	2.017829E+002	4.929000E+001	5.967571E+007	1.003575E-003
I-132E	3.084539E+002	1.877640E+002	1.251771E+002	2.644869E+001	1.533927E-001	3.933710E+005	2.397953E-004
I-132O	1.503972E+003	2.744205E+003	1.829486E+003	3.451734E+000	2.342896E+000	1.216611E+004	2.632194E-005
I-132P	4.076205E+003	1.312962E+003	9.449979E+002	2.605662E+001	6.364541E+000	7.705204E+006	1.296079E-004
I-133E	3.762697E+003	2.287516E+003	1.525012E+003	3.226248E+002	1.871102E+000	4.798585E+006	2.924736E-003
I-133O	1.834559E+004	3.342719E+004	2.228481E+004	4.209047E+001	2.857789E+001	1.484099E+005	3.209665E-003
I-133P	4.972370E+004	1.599471E+004	1.151206E+004	3.178239E+002	7.763517E+001	9.399291E+007	1.580727E-003
I-134E	9.445876E+000	5.763236E+000	3.842242E+000	8.099984E-001	4.697709E-003	1.204622E+004	7.345239E-006
I-134O	4.605985E+001	8.425463E+001	5.617099E+001	1.057748E-001	7.175665E-002	3.725636E+002	8.066228E-007
I-134P	1.248277E+002	4.030469E+001	2.900935E+001	7.980742E-001	1.949175E-001	2.359569E+005	3.970400E-006
I-135E	1.969127E+003	1.197532E+003	7.983570E+002	1.688404E+002	9.792108E-001	2.511234E+006	1.530657E-003
I-135O	9.600871E+003	1.750013E+004	1.166678E+004	2.202934E+001	1.495592E+001	7.766703E+004	1.679882E-004
I-135P	2.602186E+004	8.373495E+003	6.026761E+003	1.663305E+002	4.062914E+001	4.918912E+007	8.272821E-004
Xe-133	5.168878E+007	9.045902E+007	6.030602E+007	8.944176E+004	7.989210E+004	0.000000E+000	6.422964E+001
Xe-135	1.163365E+007	2.036711E+007	1.357810E+007	2.013299E+004	1.798156E+004	0.000000E+000	1.445782E+001
Cs-134	8.257239E+003	2.656409E+003	1.911928E+003	5.338255E+001	1.292564E+001	0.000000E+000	2.662180E-004
Cs-136	2.380950E+003	7.659757E+002	5.513044E+002	1.539271E+001	3.727070E+000	0.000000E+000	7.676327E-005
Cs-137	4.230603E+003	1.361013E+003	9.795775E+002	2.735059E+001	6.622464E+000	0.000000E+000	1.363970E-004
Cs-138	1.603434E+000	5.191513E-001	3.736630E-001	1.037053E-002	2.510410E-003	0.000000E+000	5.174223E-008
Ba-139	8.605715E+001	2.771288E+001	1.994628E+001	5.228363E-001	1.328628E-001	0.000000E+000	2.568366E-006
Ba-140	4.501217E+003	1.445972E+003	1.040726E+003	2.734236E+001	6.948914E+000	0.000000E+000	1.342915E-004
La-140	4.106987E+001	1.319428E+001	9.496468E+000	2.494776E-001	6.340320E-002	0.000000E+000	1.225311E-006
La-141	1.035802E+001	3.330310E+000	2.396969E+000	6.292287E-002	1.599094E-002	0.000000E+000	3.090644E-007
La-142	1.117479E+000	3.597777E-001	2.589489E-001	6.789088E-003	1.725254E-003	0.000000E+000	3.334995E-008
Ce-141	1.054912E+002	3.388779E+001	2.439044E+001	6.407992E-001	1.628557E-001	0.000000E+000	3.147272E-006
Ce-143	8.561739E+001	2.750631E+001	1.979743E+001	5.200808E-001	1.321752E-001	0.000000E+000	2.554385E-006
Ce-144	8.308304E+001	2.668934E+001	1.920942E+001	5.046824E-001	1.282624E-001	0.000000E+000	2.478736E-006
Pr-143	3.898884E+001	1.252478E+001	9.014600E+000	2.368352E-001	6.019040E-002	0.000000E+000	1.163212E-006
Nd-147	1.735275E+001	5.574414E+000	4.012136E+000	1.054082E-001	2.678893E-002	0.000000E+000	5.177106E-007
Np-238	3.293446E+001	1.058047E+001	7.615205E+000	2.0			

Time = 29988.000000 Seconds  
CPU ClockTime = 55.640000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	19.56852	100.52615	5.46962	25.03814	8.53380 ending at	14044.0 Sec
ControlRoom		2.19684	16.80877	0.87485	3.07169		
		0.57356	43.91637	2.18412	2.75768		
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.434726E+000	4.743543E-001	3.414124E-001	8.740466E-003	2.225520E-003	0.000000E+000	3.808242E-008
Co-60	1.722820E+000	5.696036E-001	4.099672E-001	1.049555E-002	2.672405E-003	0.000000E+000	4.572937E-008
Br-82E	1.475303E+001	8.970871E+000	5.980584E+000	1.262356E+000	9.162734E-003	1.882024E+004	1.055241E-005
Br-82O	7.193042E+001	1.310892E+002	8.739285E+001	1.654998E-001	1.124688E-001	5.820692E+002	1.173848E-006
Br-82P	1.578940E+002	5.227079E+001	3.762146E+001	1.009734E+000	2.473840E-001	3.686438E+005	4.457775E-006
Br-83E	2.804969E+001	1.707921E+001	1.138623E+001	2.400183E+000	1.742161E-002	3.578246E+004	2.006603E-005
Br-83O	1.367655E+002	2.496136E+002	1.664104E+002	3.147854E-001	2.138507E-001	1.106674E+003	2.232692E-006
Br-83P	3.002024E+002	9.952222E+001	7.163061E+001	1.919979E+000	4.703662E-001	7.008935E+005	8.477139E-006
Br-84E	9.821920E-003	6.011130E-003	4.007566E-003	8.405652E-004	6.101240E-006	1.252943E+001	7.030194E-009
Br-84O	4.789712E-002	8.790516E-002	5.860557E-002	1.103895E-004	7.490303E-005	3.875081E-001	7.829651E-010
Br-84P	1.051208E-001	3.503590E-002	2.521736E-002	6.725513E-004	1.647293E-004	2.454218E+002	2.970547E-009
Kr-85	3.862623E+005	6.761454E+005	4.507636E+005	6.710557E+002	5.997920E+002	0.000000E+000	4.490810E-001
Kr-85m	2.486724E+006	4.356623E+006	2.904428E+006	4.321316E+003	3.861488E+003	0.000000E+000	2.891863E+000
Kr-87	1.718004E+005	3.016255E+005	2.010867E+005	2.987419E+002	2.667923E+002	0.000000E+000	1.999155E-001
Kr-88	2.891108E+006	5.067539E+006	3.378382E+006	5.024784E+003	4.489483E+003	0.000000E+000	3.362610E+000
Rb-86	5.942258E+001	1.967537E+001	1.416117E+001	3.841588E-001	9.331518E-002	0.000000E+000	1.700797E-006
Sr-89	2.095263E+003	6.927440E+002	4.985965E+002	1.276451E+001	3.250132E+000	0.000000E+000	5.561528E-005
Sr-90	2.373404E+002	7.847018E+001	5.647823E+001	1.445897E+000	3.681580E-001	0.000000E+000	6.299806E-006
Sr-91	1.474696E+003	4.877546E+002	3.510576E+002	8.984197E+000	2.287543E+000	0.000000E+000	3.914538E-005
Sr-92	3.339466E+002	1.105584E+002	7.957381E+001	2.034614E+000	5.180297E-001	0.000000E+000	8.865671E-006
Y-90	2.236975E+000	7.396369E-001	5.323473E-001	1.362788E-002	3.469957E-003	0.000000E+000	5.937721E-008
Y-91	2.670484E+001	8.829254E+000	6.354779E+000	1.626880E-001	4.142404E-002	0.000000E+000	7.088357E-007
Y-92	5.536371E+000	1.832329E+000	1.318807E+000	3.373036E-002	8.588143E-003	0.000000E+000	1.469747E-007
Y-93	1.833882E+001	6.065393E+000	4.365519E+000	1.117243E-001	2.844710E-002	0.000000E+000	4.867970E-007
Zr-95	3.496878E+001	1.156151E+001	8.321294E+000	2.130326E-001	5.424292E-002	0.000000E+000	9.281883E-007
Zr-97	2.446820E+001	8.091494E+000	5.823787E+000	1.490644E-001	3.795482E-002	0.000000E+000	6.494865E-007
Nb-95	3.497156E+001	1.156245E+001	8.321972E+000	2.130496E-001	5.424723E-002	0.000000E+000	9.282623E-007
Mo-99	4.430552E+002	1.464922E+002	1.054365E+002	2.699137E+000	6.872597E-001	0.000000E+000	1.176025E-005
Tc-99m	1.614543E+002	5.341273E+001	3.844342E+001	9.836325E-001	2.504487E-001	0.000000E+000	4.285886E-006
Ru-103	4.228772E+002	1.398134E+002	1.006295E+002	2.576202E+000	6.559591E-001	0.000000E+000	1.122457E-005
Ru-105	8.430349E+001	2.789547E+001	2.007757E+001	5.136121E-001	1.307728E-001	0.000000E+000	2.237944E-006
Ru-106	1.851769E+002	6.122373E+001	4.406525E+001	1.128112E+000	2.872428E-001	0.000000E+000	4.915211E-006
Rh-105	2.467515E+002	8.159007E+001	5.872376E+001	1.503240E+000	3.827573E-001	0.000000E+000	6.549699E-006
Sb-125	1.045811E+002	3.457691E+001	2.488643E+001	6.371162E-001	1.622242E-001	0.000000E+000	2.775930E-006
Sb-127	3.950374E+003	1.306135E+003	9.400797E+002	2.406605E+001	6.127751E+000	0.000000E+000	1.048566E-004
Sb-129	4.694439E+002	1.553370E+002	1.118028E+002	2.860049E+000	7.282081E-001	0.000000E+000	1.246200E-005
Te-127	3.272610E+002	1.082418E+002	7.790618E+001	1.993752E+000	5.076462E-001	0.000000E+000	8.687053E-006
Te-127m	8.073767E+001	2.669376E+001	1.921260E+001	4.918603E-001	1.252387E-001	0.000000E+000	2.143047E-006
Te-129	1.165280E+001	3.864761E+000	2.781657E+000	7.100489E-002	1.807708E-002	0.000000E+000	3.094359E-007
Te-129m	3.720525E+002	1.230096E+002	8.853510E+001	2.266574E+000	5.771208E-001	0.000000E+000	9.875518E-006
Te-131m	6.422761E+002	2.123750E+002	1.528551E+002	3.912826E+000	9.962894E-001	0.000000E+000	1.704841E-005
Te-132	6.833595E+003	2.259448E+003	1.626218E+003	4.163093E+001	1.060016E+001	0.000000E+000	1.813875E-004
Te-133m	7.306845E+000	2.425329E+000	1.745632E+000	4.452578E-002	1.133540E-002	0.000000E+000	1.940518E-007
Te-134	2.234713E+000	7.426897E-001	5.345537E-001	1.361885E-002	3.466914E-003	0.000000E+000	5.935860E-008
I-131E	2.385334E+003	1.450333E+003	9.668888E+002	2.041028E+002	1.481468E+000	3.042940E+006	1.706146E-003
I-131O	1.163000E+004	2.119318E+004	1.412879E+004	2.675812E+001	1.818436E+001	9.411153E+004	1.897884E-004
I-131P	2.552899E+004	8.450659E+003	6.082289E+003	1.632573E+002	3.999804E+001	5.960397E+007	7.207443E-004
I-132E	2.789219E+002	1.698461E+002	1.132317E+002	2.386710E+001	1.732382E-001	3.558153E+005	1.995352E-005
I-132O	1.359979E+003	2.482332E+003	1.654902E+003	3.130247E+000	2.126508E+000	1.100460E+000	2.220205E-005
I-132P	2.985168E+003	9.897131E+002	7.123411E+002	1.909209E+001	4.677262E+000	6.969578E+006	8.429632E-005
I-133E	3.720367E+003	2.262398E+003	1.508267E+003	3.183372E+002	2.310631E+000	4.746022E+006	2.661091E-005
I-133O	1.813920E+004	3.306016E+004	2.204013E+004	4.173601E+001	2.836209E+001	1.467842E+005	2.960227E-004
I-133P	3.981717E+004	1.318242E+004	9.487934E+003	2.546326E+002	6.238458E+001	9.296331E+007	1.124157E-004
I-134E	7.274268E+000	4.440403E+000	2.960333E+000	6.224930E-001	4.518349E-003	9.279571E+003	5.205227E-006
I-134O	3.547069E+001	6.491570E+001	4.327808E+001	8.169455E-002	5.546656E-002	2.869970E+002	5.794390E-007
I-134P	7.785354E+001	2.587773E+001	1.862553E+001	4.980085E-001	1.219917E-001	1.817648E+005	2.199214E-006
I-135E	1.901148E+003	1.156529E+003	7.710216E+002	1.626753E+002	1.180770E+000	2.425266E+006	1.359899E-003
I-135O	9.269428E+003	1.690093E+004	1.126732E+004	2.132979E+001	1.449362E+001	7.500823E+004	1.512867E-004
I-135P	2.034703E+004	6.738913E+003	4.850283E+003	1.301234E+002	3.187955E+001	4.750521E+007	5.744866E-004
Xe-133	5.157858E+007	9.029009E+007	6.019341E+007	8.960858E+004	8.009179E+004	0.000000E+000	5.996745E+001
Xe-135	1.134127E+007	1.986091E+007	1.324063E+007	1.970577E+004	1.761102E+004	0.000000E+000	1.318734E+001
Cs-134	6.685166E+003	2.213503E+003	1.593149E+003	4.321866E+001	1.049815E+001	0.000000E+000	1.913430E-004
Cs-136	1.926276E+003	6.378100E+002	4.590582E+002	1.245311E+001	3.024958E+000	0.000000E+000	5.513402E-005
Cs-137	3.425191E+003	1.134103E+003	8.162609E+002	2.214338E+001	5.378801E+000	0.000000E+000	9.803592E-005
Cs-138	8.476732E-001	2.825760E-001	2.033862E-001	5.482548E-003	1.331391E-003	0.000000E+000	2.428424E-008
Ba-139	5.914383E+001	1.960523E+001	1.411081E+001	3.603726E-001	9.174902E-002	0.000000E+000	1.570430E-006
Ba-140	3.641566E+003	1.203999E+003	8.665680E+002	2.218472E+001	5.648729E+000	0.000000E+000	9.665944E-005
La-140	3.306278E+001	1.093230E+001	7.868429E+000	2.014223E-001	5.128648E-002	0.000000E+000	8.776071E-007
La-141	7.908384E+000	2.617128E+000	1.883661E+000	4.818155E-002	1.226763E-002	0.000000E+000	2.099414E-007
La-142	7.798587E-001	2.584478E-001	1.860170E-001	4.751722E-003	1.209776E-003	0.000000E+000	2.070669E-008
Ce-141	8.538303E+001	2.822972E+001	2.031809E+001	5.201603E-001	1.324446E-001	0.000000E+000	2.266352E-006
Ce-143	6.884073E+001	2.276282E+001	1.638334E+001	4.193863E-001	1.067847E-001	0.000000E+000	1.827290E-006
Ce-144	6.726369E+001	2.223893E+001	1.600627E+001	4.097757E-001	1.043382E-001	0.000000E+000	1.785402E-006
Pr-143	3.154410E+001	1.042932E+001	7.506410E+000	1.921693E-001	4.893062E-002	0.000000E+000	8.372867E-007
Nd-147	1.403700E+001	4.641017E+000	3.340332E+000	8.551458E-002	2.177393E-002	0.000000E+000	3.725894E-007
Np-238	2.654472E+001	8.776919E+000	6.317112E+000	1.617133E-001	4.117574E-002	0.000000E+000	7.045921E-007
Np-239	1.116591E+003	3.691944E+002	2.657245E+002	6.802392E+000	1.732038E+000	0.000000E+000	2.963831E-005
Pu-238	3.568446E-001	1.179810E-001	8.491580E-002	2.173926E-003	5.535306E-004	0.000000E+000	9.471845E-009
Pu-239	2.527314E-002	8.504658E-003	6.121153E-003	1.567074E-004	3.990124E-005	0.000000E+000	6.827777E-010
Pu-240	3.896132E-002	1.288150E-002	9.271351E-003	2.373555E-004	6.043606E-005	0.000000E+000	1.034163E-009
Pu-241	1.045072E+001	3.455248E+000	2.486884E+000	6.366662E-002	1.621096E-002	0.000000E+000	2.773970E-007
Am-241	5.370591E-003	1.775640E-003	1.278002E-003	3.271806E-005	8.330758E-006	0.000000E+000	1.425534E-010
Cm-242	1.631355E+000	5.393637E-001	3.882023E-001	9.938342E-003	2.530526E-003	0.000000E+000	4.330159E-008
Cm-244	3.448205E-001	1.140056E-001	8.205451E-002	2.100674E-003	5.348790E-004	0.000000E+000	9.152685E-009

Time = 43200.000000 Seconds  
CPU ClockTime = 76.510000 Seconds

	EAB	WholeBody	
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Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.847780E-001	6.230864E-002	4.484610E-002	9.312172E-004	2.945982E-004	0.000000E+000	2.319769E-009
Co-60	2.222017E-001	7.492796E-002	5.392874E-002	1.119819E-003	3.542641E-004	0.000000E+000	2.789598E-009
Br-82E	1.367915E+001	8.342800E+000	5.561870E+000	1.169341E+000	1.838038E-002	1.750846E+004	5.649182E-006
Br-82O	6.669458E+001	1.219114E+002	8.127428E+001	1.558491E-001	1.065504E-001	5.414986E+002	7.137490E-007
Br-82P	1.894976E+001	6.398632E+000	4.605361E+000	9.799687E-002	3.029194E-002	3.429491E+005	2.462293E-007
Br-83E	9.684436E+000	5.919306E+000	3.946236E+000	8.278904E-001	1.301326E-002	1.239542E+004	4.000047E-006
Br-83O	4.721966E+001	8.651098E+001	5.767445E+001	1.104033E-001	7.544030E-002	3.833635E+002	5.056033E-007
Br-83P	1.341592E+001	4.540235E+000	3.267811E+000	6.939015E-002	2.144668E-002	2.427969E+005	1.743665E-007
Br-84E	8.057066E-005	4.965308E-005	3.310326E-005	6.888706E-006	1.082805E-007	1.031233E-001	3.329742E-011
Br-84O	3.929072E-004	7.261134E-004	4.840932E-004	9.206219E-007	6.278132E-007	3.189379E-003	4.215583E-012
Br-84P	1.116167E-004	3.809569E-005	2.741966E-005	5.776534E-007	1.784555E-007	2.019940E+000	1.452028E-012
Kr-85	3.848947E+005	6.757296E+005	4.504864E+005	6.835686E+002	6.137852E+002	0.000000E+000	3.018609E-001
Kr-85m	1.404418E+006	2.468864E+006	1.645917E+006	2.495255E+003	2.239649E+003	0.000000E+000	1.101855E+000
Kr-87	2.309882E+004	4.074098E+004	2.716107E+004	4.108281E+001	3.683806E+001	0.000000E+000	1.813972E-002
Kr-88	1.176328E+006	2.069467E+006	1.379654E+006	2.090500E+003	1.875934E+003	0.000000E+000	9.231044E-001
Rb-86	7.621049E+000	2.573663E+000	1.852372E+000	3.964268E-002	1.218990E-002	0.000000E+000	9.979704E-008
Sr-89	2.696863E+002	9.094051E+001	6.545364E+001	1.359126E+000	4.299705E-001	0.000000E+000	3.385738E-006
Sr-90	3.061251E+001	1.032275E+001	7.429708E+000	1.542764E-001	4.880661E-002	0.000000E+000	3.843202E-007
Sr-91	1.455262E+002	4.910230E+001	3.534100E+001	7.343336E-001	2.320200E-001	0.000000E+000	1.827110E-006
Sr-92	1.684770E+001	5.693283E+000	4.097709E+000	8.491952E-002	2.686184E-002	0.000000E+000	2.115617E-007
Y-90	2.773013E-001	9.351634E-002	6.730758E-002	1.397511E-003	4.421120E-004	0.000000E+000	3.481372E-009
Y-91	3.438227E+000	1.159399E+000	8.344672E-001	1.732748E-002	5.481689E-003	0.000000E+000	4.316473E-008
Y-92	3.480742E-001	1.175647E-001	8.461647E-002	1.754378E-003	5.549622E-004	0.000000E+000	4.370633E-008
Y-93	1.843279E+000	6.219186E-001	4.476210E-001	9.289864E-003	2.938834E-003	0.000000E+000	2.314262E-008
Zr-95	4.502907E+000	1.518417E+000	1.092867E+000	2.269309E-002	7.179146E-003	0.000000E+000	5.653110E-008
Zr-97	2.712519E+000	9.149946E-001	6.585598E-001	1.367049E-002	4.324690E-003	0.000000E+000	3.405520E-008
Nb-95	4.497075E+000	1.516455E+000	1.091456E+000	2.266371E-002	7.169849E-003	0.000000E+000	5.645791E-008
Mo-99	5.498391E+001	1.854258E+001	1.334586E+001	2.771015E-001	8.766294E-002	0.000000E+000	6.902939E-007
Tc-99m	1.363821E+001	4.603321E+000	3.313207E+000	6.873657E-002	2.174423E-002	0.000000E+000	1.712370E-007
Ru-103	5.439682E+001	1.834310E+001	1.320228E+001	2.741412E-001	8.672681E-002	0.000000E+000	6.829173E-007
Ru-105	6.131302E+000	2.070209E+000	1.490019E+000	3.090251E-002	9.775565E-003	0.000000E+000	7.698557E-008
Ru-106	2.387782E+001	8.051771E+000	5.795192E+000	1.203359E-001	3.806926E-002	0.000000E+000	2.997705E-007
Rh-105	2.961985E+001	9.989648E+000	7.189965E+000	1.492755E-001	4.722412E-002	0.000000E+000	3.718647E-007
Sb-125	1.348773E+001	4.548158E+000	3.273497E+000	6.797348E-002	2.150397E-002	0.000000E+000	1.693297E-007
Sb-127	4.956579E+002	1.671497E+002	1.203046E+002	2.497955E+000	7.902459E-001	0.000000E+000	6.222706E-006
Sb-129	3.396478E+001	1.146820E+001	8.254162E+000	1.711868E-001	5.415244E-002	0.000000E+000	4.264676E-007
Te-127	3.220297E+001	1.086574E+001	7.820531E+000	1.622989E-001	5.134287E-002	0.000000E+000	4.043148E-007
Te-127m	1.040364E+001	3.508187E+000	2.524987E+000	5.243074E-002	1.658690E-002	0.000000E+000	1.306110E-007
Te-129	1.677124E-001	5.683611E-002	4.090772E-002	8.455142E-004	2.674120E-004	0.000000E+000	2.106679E-009
Te-129m	4.783719E+001	1.613115E+001	1.161025E+001	2.410829E-001	7.626856E-002	0.000000E+000	6.005654E-007
Te-131m	7.658701E+001	2.583027E+001	1.859112E+001	3.859768E-001	1.221058E-001	0.000000E+000	9.615191E-007
Te-132	8.532186E+002	2.877325E+002	2.070930E+002	4.299948E+000	1.360319E+000	0.000000E+000	1.071169E-005
Te-133m	5.994441E-002	2.034053E-002	1.464011E-002	3.022346E-004	9.558145E-005	0.000000E+000	7.530834E-010
Te-134	7.611950E-003	2.588072E-003	1.862775E-003	3.838431E-005	1.213767E-005	0.000000E+000	9.565025E-011
I-131E	2.345822E+003	1.430512E+003	9.536750E+002	2.005285E+002	3.152024E+000	3.002507E+006	9.687635E-004
I-131O	1.143735E+004	2.090354E+004	1.393570E+004	2.672543E+001	1.827213E+001	9.286102E+004	1.223958E-004
I-131P	3.249673E+003	1.097147E+003	7.896624E+002	1.680521E+001	5.194718E+000	5.881198E+007	4.222496E-005
I-132E	9.107543E+001	5.567381E+001	3.711619E+001	7.785754E+000	1.223810E-001	1.165703E+005	3.761799E-005
I-132O	4.440693E+002	8.136830E+002	5.424599E+002	1.038302E+000	7.094669E-001	3.605268E+003	4.755004E-006
I-132P	1.261675E+002	4.270319E+001	3.073541E+001	6.525724E-001	2.016917E-001	2.283336E+006	1.639819E-006
I-133E	3.280520E+003	2.000983E+003	1.333990E+003	2.804307E+002	4.407973E+000	4.198860E+006	1.354792E-003
I-133O	1.599466E+004	2.924013E+004	1.949344E+004	3.737673E+001	2.555292E+001	1.298616E+005	1.711756E-004
I-133P	4.544514E+003	1.534689E+003	1.104580E+003	2.350171E+001	7.264598E+000	8.224570E+007	5.905121E-005
I-134E	3.981577E-001	2.443493E-001	1.629031E-001	3.403959E-002	5.350534E-004	5.096106E+002	1.644999E-007
I-134O	1.941491E+000	3.572222E+000	2.381534E+000	4.544154E-003	3.102026E-003	1.576115E+001	2.080922E-008
I-134P	5.515748E-001	1.874471E-001	1.349153E-001	2.853711E-003	8.818080E-004	9.982064E+003	7.172083E-009
I-135E	1.286270E+003	7.850293E+002	5.233544E+002	1.099561E+002	1.728354E+000	1.646343E+006	5.312257E-004
I-135O	6.271465E+003	1.147202E+004	7.648036E+003	1.465754E+001	1.001933E+001	5.091781E+004	6.712711E-005
I-135P	1.781875E+003	6.021039E+002	4.333598E+002	9.215261E+000	2.484431E+000	3.224795E+007	2.315512E-005
Xe-133	5.036871E+007	8.843255E+007	5.895504E+007	8.94557E+004	8.032222E+004	0.000000E+000	3.950315E+001
Xe-135	8.545329E+006	1.501206E+007	1.000806E+007	1.517948E+004	1.362724E+004	0.000000E+000	6.703075E+000
Cs-134	8.621497E+002	2.911482E+002	2.095514E+002	4.484671E+000	1.379012E+000	0.000000E+000	1.128977E-005
Cs-136	2.464632E+002	8.323220E+001	5.990566E+001	1.282037E+000	3.942190E-001	0.000000E+000	3.227418E-006
Cs-137	4.417861E+002	1.491913E+002	1.073791E+002	2.298053E+000	7.066387E-001	0.000000E+000	5.785147E-006
Cs-138	9.553523E-004	3.261147E-004	2.347235E-004	4.973255E-006	1.528363E-006	0.000000E+000	1.252494E-011
Ba-139	1.233250E+000	4.175848E-001	3.005556E-001	6.216997E-003	1.966350E-003	0.000000E+000	1.548973E-008
Ba-140	4.658105E+002	1.570775E+002	1.130551E+002	2.347526E+000	7.426585E-001	0.000000E+000	5.847960E-006
La-140	4.003482E+000	1.350196E+000	9.717918E-001	2.017637E-002	6.382911E-003	0.000000E+000	5.026192E-008
La-141	5.313030E-001	1.794246E-001	1.291397E-001	2.677867E-003	8.470962E-004	0.000000E+000	6.671255E-009
La-142	1.928225E-002	6.526543E-003	4.697459E-003	9.720198E-005	3.074430E-005	0.000000E+000	2.421764E-010
Ce-141	1.097708E+001	3.701573E+000	2.664175E+000	5.532068E-002	1.750115E-002	0.000000E+000	1.378102E-007
Ce-143	8.222806E+000	2.773271E+000	1.996038E+000	4.144060E-002	1.310995E-002	0.000000E+000	1.032340E-007
Ce-144	8.672622E+000	2.924471E+000	2.104862E+000	4.370700E-002	1.382707E-002	0.000000E+000	1.088792E-007
Pr-143	4.036987E+000	1.361324E+000	9.798012E-001	2.034504E-002	6.436315E-003	0.000000E+000	5.068185E-008
Nd-147	1.793136E+000	6.046713E-001	4.352069E-001	9.036799E-003	2.858863E-003	0.000000E+000	2.251172E-008
Np-238	3.256607E+000	1.098275E+000	7.904743E-001	1.641230E-002	5.192136E-003	0.000000E+000	4.088511E-008
Np-239	1.376826E+002	4.643226E+001	3.341922E+001	6.938775E-001	2.195126E-001	0.000000E+000	1.728535E-006
Pu-238	4.602663E-002	1.552050E-002	1.117074E-002	2.319582E-004	7.338191E-005	0.000000E+000	5.778345E-010
Pu-239	3.317840E-003	1.118798E-003	8.052454E-004	1.672076E-005	5.289750E-006	0.000000E+000	4.165332E-011
Pu-240	5.025337E-003	1.694578E-003	1.219658E-003	2.532595E-005	8.012074E-006	0.000000E+000	6.308984E-011
Pu-241	1.347935E+000	4.545331E-001	3.271462E-001	6.793125E-003	2.149061E-003	0.000000E+000	1.692245E-008
Am-241	6.927129E-004	2.335876E-004	1.681226E-004	3.491032E-006	1.104417E-006	0.000000E+000	8.696561E-012
Cm-242	2.102796E-001	7.090783E-002	5.103530E-002	1.059736E-003	3.352563E-004	0.000000E+000	2.639924E-009
Cm-244	4.447517E-002	1.499734E-002	1.079420E-002	2.241394E-004	7.090836E-005	0.000000E+000	5.583569E-010

Time = 69840.000000 Seconds  
CPU ClockTime = 126.990000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	29.33283	106.95208	5.69202	35.02485	8.53380 ending at	14044.0 Sec
LPZ	2.92916	17.05662	0.88343	3.81259		
ControlRoom	0.84775	47.01533	2.28792	3.13567		

Br-84P	1.441623E-010	4.028553E-011	2.899582E-011	5.714795E-013	2.320583E-013	1.265053E-004	1.274930E-018
Kr-85	3.821517E+005	6.748918E+005	4.499279E+005	6.845362E+002	6.148924E+002	0.000000E+000	2.734873E-001
Kr-85m	4.437893E+005	7.855235E+005	5.236846E+005	7.955219E+002	7.140843E+002	0.000000E+000	3.178202E-001
Kr-87	4.040865E+002	7.193567E+002	4.795784E+002	7.256833E-001	6.502354E-001	0.000000E+000	2.898994E-004
Kr-88	1.918987E+005	3.401127E+005	2.267433E+005	3.441354E+002	3.087807E+002	0.000000E+000	1.374840E-001
Rb-86	1.553176E-001	4.259586E-002	3.065800E-002	6.154909E-004	2.499804E-004	0.000000E+000	1.373074E-009
Sr-89	5.536107E+000	1.516038E+000	1.091155E+000	2.181221E-002	8.908213E-003	0.000000E+000	4.854897E-008
Sr-90	6.310634E-001	1.728124E-001	1.243802E-001	2.486383E-003	1.015451E-003	0.000000E+000	5.534115E-009
Sr-91	1.748387E+000	4.792934E-001	3.449677E-001	6.889171E-003	2.813378E-003	0.000000E+000	1.533410E-008
Sr-92	5.232662E-002	1.438281E-002	1.035195E-002	2.062235E-004	8.420235E-005	0.000000E+000	4.590473E-010
Y-90	5.276812E-003	1.445247E-003	1.040204E-003	2.079082E-005	8.490990E-006	0.000000E+000	4.627575E-011
Y-91	7.062051E-002	1.933909E-002	1.391914E-002	2.782441E-004	1.136363E-004	0.000000E+000	6.193074E-010
Y-92	1.684934E-003	4.627265E-004	3.330445E-004	6.640032E-006	2.711320E-006	0.000000E+000	1.478020E-011
Y-93	2.298157E-002	6.299583E-003	4.534075E-003	9.055379E-005	3.698025E-005	0.000000E+000	2.015567E-010
Zr-95	9.251795E-002	2.533558E-002	1.823506E-002	3.645199E-004	1.488717E-004	0.000000E+000	8.113373E-010
Zr-97	4.120587E-002	1.129073E-002	8.126413E-003	1.623579E-004	6.305202E-005	0.000000E+000	3.613765E-010
Nb-95	9.214226E-002	2.523283E-002	1.816111E-002	3.630397E-004	1.482671E-004	0.000000E+000	8.080430E-010
Mo-99	1.048666E+000	2.872140E-001	2.067198E-001	4.131778E-003	1.687422E-003	0.000000E+000	9.196420E-009
Tc-99m	1.197533E-001	3.284881E-002	2.364269E-002	4.718858E-004	1.926995E-004	0.000000E+000	1.050352E-009
Ru-103	1.115303E+000	3.054214E-001	2.198244E-001	4.394284E-003	1.794646E-003	0.000000E+000	9.780665E-009
Ru-105	3.981245E-002	1.092720E-002	7.864781E-003	1.568872E-004	6.406405E-005	0.000000E+000	3.492138E-010
Ru-106	4.919584E-001	1.347196E-001	9.696327E-002	1.938311E-003	7.916158E-004	0.000000E+000	4.314233E-009
Rh-105	5.282488E-001	1.446986E-001	1.041456E-001	2.081339E-003	8.500134E-004	0.000000E+000	4.632612E-009
Sb-125	2.779903E-001	7.612579E-002	5.479087E-002	1.095279E-003	4.473173E-004	0.000000E+000	2.437838E-009
Sb-127	9.664817E+000	2.646935E+000	1.905108E+000	3.807958E-002	1.555178E-002	0.000000E+000	8.475659E-008
Sb-129	2.182398E-001	5.990086E-002	4.311324E-002	8.600092E-004	3.511798E-004	0.000000E+000	1.914288E-009
Te-127	3.846783E-001	1.054548E-001	7.590029E-002	1.515749E-003	6.189965E-004	0.000000E+000	3.373796E-009
Te-127m	2.140507E-001	5.861656E-002	4.218876E-002	8.433576E-004	3.444314E-004	0.000000E+000	1.877120E-009
Te-129	4.153213E-005	1.147278E-005	8.257519E-006	1.637424E-007	6.683536E-008	0.000000E+000	3.645293E-013
Te-129m	9.799098E-001	2.683450E-001	1.931390E-001	3.860837E-003	1.576784E-003	0.000000E+000	8.593336E-009
Te-131m	1.347672E+000	3.691659E-001	2.657040E-001	5.309935E-003	2.168560E-003	0.000000E+000	1.181878E-008
Te-132	1.647296E+001	4.511590E+000	3.247178E+000	6.490388E-002	2.650685E-002	0.000000E+000	1.444615E-007
Te-133m	4.779084E-006	1.323118E-006	9.523153E-007	1.884491E-008	7.690879E-009	0.000000E+000	4.195549E-014
I-131E	2.268131E+003	1.391367E+003	9.275780E+002	1.955106E+002	3.609044E+000	2.922606E+006	8.018436E-004
I-131O	1.105856E+004	2.033152E+004	1.355435E+004	2.602771E+001	1.779581E+001	9.038987E+004	1.066295E-004
I-131P	6.523460E+001	1.788622E+001	1.287345E+001	2.582327E-001	1.049892E-001	5.724692E+007	5.758362E-007
I-132E	9.534362E+000	5.873844E+000	3.915929E+000	1.818907E-001	1.517168E-002	1.228546E+004	3.371221E-006
I-132O	4.648803E+001	8.584731E+001	5.723202E+001	8.295374E-001	7.481322E-002	3.799628E+002	4.487426E-007
I-132P	2.742226E-001	7.551715E-002	5.435310E-002	1.085870E-003	4.413551E-004	2.406431E+005	2.421648E-009
I-133E	2.545441E+003	1.562141E+003	1.041429E+003	2.194155E+002	4.050316E+000	3.279932E+006	8.998950E-004
I-133O	1.241068E+004	2.282738E+004	1.521827E+004	2.921330E+002	1.997176E+001	1.014412E+005	1.196799E-004
I-133P	7.321045E+001	2.008177E+001	1.445368E+001	2.898146E-001	1.178261E-001	6.424610E+007	6.462677E-007
I-134E	1.137520E-003	7.056653E-004	4.704539E-004	9.806507E-005	1.810216E-006	1.465735E+000	4.023227E-010
I-134O	5.546759E-003	1.031635E-002	6.877719E-003	1.309327E-005	8.927007E-006	4.533201E-002	5.363789E-011
I-134P	3.271700E-005	9.073956E-006	6.530991E-006	1.296216E-007	5.266084E-008	2.871028E+001	2.891244E-013
I-135E	5.850459E+002	3.594127E+002	2.396092E+002	5.043117E+001	9.309367E-001	7.538611E+005	2.068410E-004
I-135O	2.852508E+003	5.252276E+003	3.501528E+003	6.716272E+000	4.590418E+000	2.331529E+004	2.751486E-005
I-135P	1.682676E+001	4.620470E+000	3.325549E+000	6.661645E-002	2.708154E-002	1.476635E+007	1.485541E-007
Xe-133	4.801482E+007	8.480250E+007	5.653501E+007	8.600964E+004	7.725720E+004	0.000000E+000	3.436272E+001
Xe-135	4.828950E+006	8.537594E+006	5.691742E+006	8.653031E+003	7.769994E+003	0.000000E+000	3.457032E+000
Cs-134	1.776816E+001	4.872811E+000	3.507163E+000	7.041134E-002	2.859747E-002	0.000000E+000	1.570778E-007
Cs-136	4.998986E+000	1.370985E+000	9.867545E-001	1.980994E-002	8.045763E-003	0.000000E+000	4.419321E-008
Cs-137	9.107235E+000	2.497603E+000	1.797628E+000	3.608998E-002	1.465790E-002	0.000000E+000	8.051165E-008
Ba-139	6.449356E-004	1.778940E-004	1.280388E-004	2.542409E-006	1.037845E-006	0.000000E+000	5.659804E-012
Ba-140	9.443050E+000	2.586000E+000	1.861251E+000	3.720560E-002	1.519492E-002	0.000000E+000	8.281115E-008
La-140	7.266184E-002	1.990294E-002	1.432497E-002	2.862921E-004	1.169213E-004	0.000000E+000	6.372242E-010
La-141	2.939951E-003	8.071737E-004	5.809580E-004	1.158560E-005	4.730824E-006	0.000000E+000	2.578850E-011
La-142	1.421781E-005	3.919077E-006	2.820744E-006	5.604540E-008	2.287947E-008	0.000000E+000	1.247639E-013
Ce-141	2.248090E-001	6.156320E-002	4.430958E-002	8.857456E-004	3.617427E-004	0.000000E+000	1.971466E-009
Ce-143	1.451924E-001	3.977207E-002	2.862561E-002	5.720693E-004	2.336314E-004	0.000000E+000	1.273304E-009
Ce-144	1.786517E-001	4.892263E-002	3.521163E-002	7.038857E-004	2.874705E-004	0.000000E+000	1.566687E-009
Pr-143	8.192195E-002	2.243447E-002	1.614701E-002	3.227723E-004	1.318216E-004	0.000000E+000	7.184173E-010
Nd-147	3.625291E-002	9.927994E-003	7.145587E-003	1.428365E-004	5.833498E-005	0.000000E+000	3.179213E-010
Np-238	6.068821E-002	1.662236E-002	1.196380E-002	2.391144E-004	9.765427E-005	0.000000E+000	5.322161E-010
Np-239	2.592083E+000	7.099512E-001	5.109813E-001	1.021291E-002	4.170957E-003	0.000000E+000	2.273169E-008
Pu-238	9.488317E-004	2.598311E-004	1.870112E-004	3.738386E-006	1.526776E-006	0.000000E+000	8.320785E-012
Pu-239	6.839719E-005	1.873010E-005	1.348083E-005	2.694841E-007	1.100587E-007	0.000000E+000	5.998095E-013
Pu-240	1.035972E-004	2.836939E-005	2.041862E-005	4.081717E-007	1.666994E-007	0.000000E+000	9.084962E-013
Pu-241	2.778652E-002	7.609151E-003	5.476620E-003	1.094786E-004	4.471161E-005	0.000000E+000	2.436741E-010
Am-241	1.428024E-005	3.910547E-006	2.814582E-006	5.626398E-008	2.297850E-008	0.000000E+000	1.252307E-013
Cm-242	4.329222E-003	1.185531E-003	8.532756E-004	1.705709E-005	6.966199E-006	0.000000E+000	3.796515E-011
Cm-244	9.168250E-004	2.510663E-004	1.807028E-004	3.612280E-006	1.475273E-006	0.000000E+000	8.040102E-012

Time = 86400.000000 Seconds

CPU ClockTime = 154.400000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	31.33004	109.17112	5.76041	37.09045	8.53380 ending at	14044.0 Sec
LPZ	3.07895	17.14222	0.88607	3.96502		
ControlRoom	0.89541	47.94175	2.31646	3.21187		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.667154E-004	8.167346E-005	5.878376E-005	1.329056E-006	5.904190E-007	0.000000E+000	2.890803E-012
Co-60	4.430716E-004	9.867850E-005	7.102299E-005	1.605786E-006	7.133540E-007	0.000000E+000	3.492713E-012
Br-82E	1.068413E+001	6.580217E+000	4.386813E+000	9.248882E-001	1.716374E-002	1.382458E+004	3.775904E-006
Br-82O	5.209194E+001	9.615514E+001	6.410346E+001	1.228799E-001	8.386573E-002	4.275642E+002	5.020284E-007
Br-82P	2.985980E-002	6.660529E-003	4.793859E-003	1.083743E-004	4.807672E-005	2.707907E+005	2.358641E-010
Br-83E	2.991754E-001	1.851566E-001	1.234387E-001	2.589974E-002	4.806346E-004	3.871122E+002	1.057488E-007
Br-83O	1.458728E+000	2.706074E+000	1.840464E+000	3.445378E-003	2.348577E-003	1.197254E+001	1.407599E-008
Br-83P	8.361331E-004	1.874367E-004	1.349066E-004	3.035715E-006	1.346293E-006	7.582610E+003	6.607564E-012
Kr-85	3.804565E+005	6.743715E+005	4.495810E+005	6.825994E+002	6.125014E+002	0.000000E+000	2.721288E-001
Kr-85m	2.168540E+005	3.854811E+005	2.569885E+005	3.894295E+002	3.491233E+002	0.000000E+000	1.552480E-001
Kr-87	3.267484E+001	5.850425E+001	3.900342E+001	5.881529E-002	5.260760E-002	0.000000E+000	2.344545E-005
Kr-88	6.216876E+004	1.106942E+005	7.379664E+004	1.117031E+002	1.000896E+002	0.000000E+000	4.453034E-002
Rb-86	1.491932E-002	3.277705E-003	2.395087E-003	5.416519E-003	2.402146E-005	0.000000E+000	1.178895E-010
Sr-89	5.341759E-001	1.189700E-001	8.562761E-002	1.935699E-002	8.600338E-004	0.000000E+000	4.210889E-009
Sr-90	6.150564E-002	3.386842E-002	2.226649E-002	8.825563E-003	9.848536E-004	0.000000E+000	4.512194E-010
Sr-91	1.209199E-001	2.966689E-002	1.940921E-002	4.882793E-004	1.960388E-004	0.000000E+000	9.341519E-010
Sr-92	1.560886E-003	3.492768E-004	2.513900E-004	5.658793E-006	2.513146E-006	0.000000E+000	1.230954E-011
Y-90	4.857177E-004	1.081980E-004	7.787457E-005	1.760369E-006	7.820163E-007	0.000000E+000	3.828959E-012
Y-91	8.16578E-003	1.518165E-003	1.092686E-003	2.470475E-005	1.097483E-005	0.000000E+000	5.373482E-011
Y-92	6.622713E-005	1.480314E-005	1.065447E-005	2.400080E-007	1.066299E-007	0.000000E+000	5.222326E-013
Y-93	1.626458E-003	3.626904E-004	2.610436E-004	5.895132E-006	2.618655E-006	0.000000E+000	1.282272E-011
Zr-95	8.931958E-003	1.989293E-003	1.431776E-003	3.237134E-005	1.438063E-005	0.000000E+000	7.041027E-011

Zr-97	3.297281E-003	7.349118E-004	5.289468E-004	1.195067E-005	5.308719E-006	0.000000E+000	2.599407E-011
Nb-95	8.880365E-003	1.977816E-003	1.423516E-003	3.218437E-005	1.429756E-005	0.000000E+000	7.000361E-011
Mo-99	9.666289E-002	2.153241E-002	1.549776E-002	3.503316E-004	1.556294E-004	0.000000E+000	7.620023E-010
Tc-99m	6.815597E-003	1.521167E-003	1.094849E-003	2.470474E-005	1.097342E-005	0.000000E+000	5.373717E-011
Ru-103	1.075339E-002	2.394969E-002	1.723758E-002	3.897262E-004	1.731317E-004	0.000000E+000	8.476860E-010
Ru-105	1.878291E-003	4.195296E-004	3.019536E-004	6.808655E-006	3.024151E-006	0.000000E+000	1.481026E-011
Rh-106	4.757682E-002	1.059606E-002	7.626424E-003	1.724286E-004	7.659961E-005	0.000000E+000	3.750460E-010
Rh-105	1.070287E-002	1.040517E-002	7.489030E-003	1.692653E-004	7.519274E-005	0.000000E+000	3.681684E-010
Sb-125	2.689021E-002	5.988844E-003	4.310418E-003	9.745588E-005	4.329377E-005	0.000000E+000	2.119744E-010
Sb-127	9.032129E-001	2.011866E-001	1.448023E-001	3.273467E-003	1.454192E-003	0.000000E+000	7.120074E-009
Sb-129	1.022922E-002	2.284829E-003	1.644490E-003	3.708019E-005	1.646961E-005	0.000000E+000	8.065726E-011
Te-127	2.650984E-002	5.912165E-003	4.255235E-003	9.608615E-005	4.268179E-005	0.000000E+000	2.090010E-010
Te-127m	2.068279E-002	4.606381E-003	3.315403E-003	7.495889E-005	3.329971E-005	0.000000E+000	1.630416E-010
Te-129m	9.442583E-002	2.103034E-002	1.513640E-002	3.422197E-004	1.520275E-004	0.000000E+000	7.443556E-010
Te-131m	1.181591E-001	2.632614E-002	1.894802E-002	4.282453E-004	1.902391E-004	0.000000E+000	9.314756E-010
Te-132	1.530012E+000	3.408116E-001	2.452962E-001	5.545151E-003	2.463352E-003	0.000000E+000	1.206119E-008
I-131E	2.221139E+003	1.367575E+003	9.117167E+002	1.922759E+002	3.568188E+000	2.874013E+006	7.849711E-004
I-131O	1.082945E+004	1.998386E+004	1.332258E+004	2.554371E+001	1.743490E+001	8.888700E+004	1.043594E-004
I-131P	6.207598E+000	1.384257E+000	9.963072E-001	2.252964E-002	9.994718E-003	5.629510E+007	4.903285E-008
I-132E	2.344414E+000	1.451332E+000	9.675630E-001	2.029574E-001	3.766382E-003	3.033508E+003	8.286812E-007
I-132O	1.143099E+001	2.121149E+001	1.414111E+001	2.700085E-002	1.840412E-002	9.381983E+001	1.103111E-007
I-132P	6.552151E-003	1.469214E-003	1.057460E-003	2.378908E-005	1.054991E-005	5.941923E+004	5.177984E-011
I-133E	2.174067E+003	1.393912E+003	8.928752E+002	1.882020E+002	3.492583E+000	2.813104E+006	7.683487E-004
I-133O	1.059999E+004	1.957120E+004	1.304748E+004	2.500598E+001	1.706555E+001	8.700321E+004	1.021624E-004
I-133P	6.076045E+000	1.355665E+000	9.757290E-001	2.205300E-002	9.782948E-003	5.510203E+007	4.799606E-008
I-134E	2.981905E-005	1.862281E-005	1.241548E-005	2.581661E-006	4.790858E-008	3.858347E-002	1.054312E-011
I-134O	1.454033E-004	2.722529E-004	1.815059E-004	3.442475E-007	2.341179E-007	1.193303E-003	1.406377E-012
I-134P	8.333863E-008	1.885595E-008	1.357159E-008	3.027650E-010	1.341964E-010	7.557586E-001	6.591279E-016
I-135E	3.585148E+002	2.211475E+002	1.474321E+002	3.103584E+001	5.759505E-001	4.638946E+005	1.267099E-004
I-135O	1.748010E+003	3.231737E+003	2.154498E+003	4.125061E+000	2.814254E+000	1.434725E+004	1.685295E-005
I-135P	1.001972E+000	2.238543E-001	1.611175E-001	3.636984E-003	1.613276E-003	9.086595E+006	7.915736E-009
Xe-133	4.660736E+007	8.262147E+007	5.508099E+007	8.362376E+004	7.503381E+004	0.000000E+000	3.333788E+001
Xe-135	3.886629E+006	6.011364E+006	4.007585E+006	6.078909E+003	5.452232E+003	0.000000E+000	2.423420E+000
Cs-134	1.718652E+000	3.833289E-001	2.758976E-001	6.239623E-003	2.767185E-003	0.000000E+000	1.358156E-008
Cs-136	4.787618E-001	1.067875E-001	7.685939E-002	1.738166E-003	7.708502E-004	0.000000E+000	3.783407E-009
Cs-137	8.10553E-001	1.965109E-001	1.414370E-001	3.198701E-003	1.418579E-003	0.000000E+000	6.962498E-009
Ba-139	6.356317E-006	1.428676E-006	1.028286E-006	2.305098E-008	1.023450E-008	0.000000E+000	5.014729E-014
Ba-140	9.040842E-001	2.013611E-001	1.449279E-001	3.276603E-003	1.455594E-003	0.000000E+000	7.126882E-009
La-140	6.494469E-003	1.446872E-003	1.041374E-003	2.353785E-005	1.045625E-005	0.000000E+000	5.119704E-011
La-141	1.255743E-004	2.805911E-005	2.019536E-005	4.2552093E-007	2.021821E-007	0.000000E+000	9.901844E-013
Ce-141	2.166009E-002	4.824095E-003	3.472100E-003	7.850086E-005	3.487317E-005	0.000000E+000	1.707457E-010
Ce-143	1.275722E-002	2.842315E-003	2.045732E-003	4.623609E-005	2.053943E-005	0.000000E+000	1.005680E-011
Ce-144	1.727533E-002	3.847474E-003	2.769186E-003	6.260948E-005	2.781362E-005	0.000000E+000	1.361807E-010
Pr-143	7.848205E-003	1.747978E-003	1.258092E-003	2.844365E-005	1.263577E-005	0.000000E+000	6.186726E-011
Nd-147	3.465054E-003	7.717552E-004	5.554641E-004	1.255814E-005	5.578807E-006	0.000000E+000	2.731498E-011
Np-238	5.714065E-003	1.228372E-003	8.841100E-004	1.998449E-005	8.877770E-006	0.000000E+000	4.346810E-011
Np-239	2.370123E-001	5.279802E-002	3.800092E-002	8.589962E-004	3.815950E-004	0.000000E+000	1.868394E-009
Pu-238	9.179294E-005	2.044362E-005	1.471412E-005	3.326772E-007	1.477884E-007	0.000000E+000	7.235996E-013
Pu-239	6.616984E-006	1.473699E-006	1.060682E-006	2.398136E-008	1.065348E-008	0.000000E+000	5.216139E-014
Pu-240	1.002236E-005	2.232124E-006	1.606552E-006	3.632316E-008	1.613619E-008	0.000000E+000	7.900578E-014
Pu-241	2.688098E-003	5.986785E-004	4.308937E-004	9.742242E-006	4.327891E-006	0.000000E+000	2.119016E-011
Am-241	1.381520E-006	3.076845E-007	2.214532E-007	5.006922E-009	2.224274E-009	0.000000E+000	1.089046E-014
Cm-242	4.184825E-004	9.320244E-005	6.708164E-005	1.516670E-006	6.737651E-007	0.000000E+000	3.298880E-012
Cm-244	8.869509E-005	1.975369E-005	1.421754E-005	3.214500E-007	1.428008E-007	0.000000E+000	6.991794E-013

Time = 259200.000000 Seconds  
CPU ClockTime = 482.470000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	38.30599	127.79274	6.33073	44.63672	8.53380 ending at	14044.0 Sec
LPZ	3.31148	17.55012	0.89856	4.21004		
ControlRoom	0.96578	51.01618	2.41063	3.37641		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.491514E-004	8.232327E-005	5.488218E-005	2.825540E-007	5.625068E-007	0.000000E+000	2.484978E-013
Co-60	4.298821E-004	1.013569E-004	6.757126E-005	3.478859E-007	6.925695E-007	0.000000E+000	3.059552E-013
Br-82E	4.042417E+000	2.554896E+000	1.703265E+000	3.572100E-001	6.512627E-003	5.373631E+003	9.328212E-007
Br-82O	1.970936E+001	3.733409E+001	2.488941E+001	3.234951E-002	3.175322E-002	1.661948E+002	8.452448E-008
Br-82P	1.129767E-002	2.668436E-003	1.778959E-003	9.143561E-006	1.820137E-005	1.052567E+005	8.041553E-012
Br-83E	2.770222E-007	1.764435E-007	1.176299E-007	2.448023E-008	4.463195E-010	3.682471E-004	6.393504E-014
Br-83O	1.350713E-006	2.578731E-006	1.719168E-006	2.220374E-009	2.176178E-009	1.138909E-005	5.802014E-015
Br-83P	7.742194E-010	1.843045E-010	1.228706E-010	6.268750E-013	1.247370E-012	7.213088E-005	5.513829E-019
Kr-85	3.692663E+005	6.715432E+005	4.476955E+005	3.964841E+002	5.949132E+002	0.000000E+000	1.010984E-001
Kr-85m	1.253240E+002	2.289427E+002	1.526291E+002	1.347360E-001	2.019099E-001	0.000000E+000	3.435745E-005
Kr-88	4.930937E-001	9.031349E-001	6.020940E-001	5.305238E-004	7.944345E-004	0.000000E+000	1.352860E-007
Rb-86	1.344792E-002	3.175509E-003	2.117006E-003	1.088365E-005	2.166553E-005	0.000000E+000	9.571853E-012
Sr-89	5.046094E-001	1.189779E-001	7.931859E-002	4.083599E-004	8.129603E-004	0.000000E+000	3.591405E-010
Sr-90	5.926812E-002	1.397413E-002	9.316088E-003	4.796324E-005	9.548498E-005	0.000000E+000	4.218224E-011
Sr-91	3.537466E-003	8.358312E-004	5.572219E-004	2.863064E-006	5.699157E-006	0.000000E+000	2.518055E-012
Y-90	2.805961E-004	6.617929E-005	4.411954E-005	2.270788E-007	4.520602E-007	0.000000E+000	1.997099E-013
Y-91	6.463431E-003	1.523958E-003	1.015972E-003	5.230592E-006	1.041303E-005	0.000000E+000	4.600150E-012
Y-93	6.050893E-005	1.429494E-005	9.529980E-006	4.897278E-008	9.748494E-008	0.000000E+000	4.307130E-014
Zr-95	8.486541E-003	2.000968E-003	1.333979E-003	8.667812E-006	1.367240E-005	0.000000E+000	6.040037E-012
Zr-97	4.418335E-004	1.042999E-004	6.953336E-005	3.575815E-007	7.118279E-007	0.000000E+000	3.144876E-013
Nb-95	8.287101E-003	1.953965E-003	1.302643E-003	6.706418E-006	1.335109E-005	0.000000E+000	5.898096E-012
Mo-99	5.666645E-002	1.336480E-002	8.909871E-003	4.585860E-005	9.129364E-005	0.000000E+000	4.033144E-011
Tc-99m	2.608912E-005	6.171936E-006	4.114637E-006	2.111680E-008	4.203202E-008	0.000000E+000	1.857247E-014
Ru-103	1.007865E-001	2.376377E-002	1.584252E-002	8.156247E-005	1.623740E-004	0.000000E+000	7.173178E-011
Ru-105	1.015250E-006	2.404643E-007	1.603102E-007	8.218082E-010	1.635672E-009	0.000000E+000	7.228019E-016
Rh-106	4.602223E-002	1.085106E-002	7.234042E-003	3.724389E-005	7.414496E-005	0.000000E+000	3.275490E-011
Rh-105	1.771559E-002	4.179332E-003	2.786223E-003	1.433695E-005	2.854110E-005	0.000000E+000	1.260902E-011
Sb-125	2.607263E-002	6.147364E-003	4.098243E-003	2.109951E-005	4.200479E-005	0.000000E+000	1.855639E-011
Sb-127	6.112122E-001	1.441421E-001	9.609474E-002	4.946348E-004	9.847056E-004	0.000000E+000	4.350179E-010
Sb-129	5.164966E-006	1.223385E-006	8.155935E-007	4.180864E-009	8.321294E-009	0.000000E+000	3.677182E-015
Te-127	7.471724E-004	1.765456E-004	1.176973E-004	6.			

I-132P	2.924816E-009	6.965664E-010	4.643815E-010	2.368243E-012	4.712277E-012	2.724931E-002	2.083058E-018
I-133E	4.263602E+002	2.695750E+002	1.797169E+002	3.767560E+001	6.868986E-001	5.667654E+005	9.838693E-005
I-1330	2.078783E+003	3.939268E+003	2.626181E+003	3.412229E+000	3.349076E+000	1.752883E+004	8.915686E-006
I-133P	1.191584E+000	2.815566E-001	1.877045E-001	9.644077E-004	1.919732E-003	1.110159E+007	8.481794E-010
I-135E	2.199832E+000	1.393777E+000	9.291871E-001	1.943918E-001	3.544131E-003	2.924258E+003	5.076545E-007
I-1350	1.072572E+001	2.036795E+001	1.357867E+001	1.761304E-002	1.728012E-002	9.044096E+001	4.602153E-008
I-135P	6.148058E-003	1.455766E-003	9.705137E-004	4.976511E-006	9.905086E-006	5.727927E+004	4.376881E-012
Xe-133	3.473855E+007	6.318523E+007	4.212350E+007	3.730076E+004	5.596621E+004	0.000000E+000	9.511236E+000
Xe-135	8.493868E+004	1.548117E+005	1.032080E+005	9.125751E+001	1.368435E+002	0.000000E+000	2.327000E-002
Cs-134	1.665628E+000	3.932937E-001	2.621958E-001	1.348020E-003	2.683440E-003	0.000000E+000	1.185543E-009
Cs-136	4.183681E-001	9.879271E-002	6.586181E-002	3.385934E-004	6.740198E-004	0.000000E+000	2.977830E-010
Cs-137	8.553362E-001	2.019647E-001	1.346431E-001	6.922375E-004	1.378005E-003	0.000000E+000	6.088023E-010
Ba-140	7.873663E-001	1.856561E-001	1.237707E-001	6.371853E-004	1.268501E-003	0.000000E+000	5.603860E-010
La-140	2.760169E-003	6.511140E-004	4.340762E-004	2.233754E-006	4.446832E-006	0.000000E+000	1.964533E-012
Ce-141	2.015225E-002	4.751585E-003	3.167723E-003	1.630841E-005	3.246666E-005	0.000000E+000	1.434276E-011
Ce-143	4.535957E-003	1.070132E-003	7.134215E-004	3.670887E-006	7.307757E-006	0.000000E+000	3.228463E-012
Ce-144	1.669165E-002	3.935538E-003	2.623692E-003	1.350786E-005	2.689138E-005	0.000000E+000	1.187976E-011
Pr-143	6.880051E-003	1.622267E-003	1.081511E-003	5.567760E-006	1.108424E-005	0.000000E+000	4.896683E-012
Nd-147	2.965281E-003	6.992022E-004	4.661348E-004	2.399690E-006	4.777272E-006	0.000000E+000	2.110458E-012
Np-238	2.781424E-003	6.560597E-004	4.373733E-004	2.250941E-006	4.481073E-006	0.000000E+000	1.979647E-012
Np-239	1.277342E-003	3.012771E-002	2.008514E-002	1.033721E-004	2.057889E-004	0.000000E+000	9.091313E-011
Pu-238	8.912074E-005	2.101273E-005	1.400849E-005	7.212173E-008	1.435796E-007	0.000000E+000	6.342891E-014
Pu-239	6.424634E-006	1.514789E-006	1.009859E-006	5.199190E-009	1.035052E-008	0.000000E+000	4.572533E-015
Pu-240	9.731009E-006	2.294360E-006	1.529573E-006	7.874904E-009	1.567732E-008	0.000000E+000	6.925743E-015
Pu-241	2.609270E-003	6.152090E-004	4.101394E-004	2.115747E-006	4.203712E-006	0.000000E+000	1.857067E-012
Am-241	1.341348E-006	3.162607E-007	2.108405E-007	1.085498E-009	2.161004E-009	0.000000E+000	9.546629E-016
Cm-242	4.028724E-004	9.498901E-005	6.332601E-005	3.260280E-007	6.490549E-007	0.000000E+000	2.867320E-013
Cm-244	8.609875E-005	2.030021E-005	1.353347E-005	6.967616E-008	1.387110E-007	0.000000E+000	6.127810E-014

Time = 345600.000000 Seconds  
CPU ClockTime = 641.420000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	40.64010	135.47364	6.56504	47.20515	8.53380 ending at	14044.0 Sec
LPZ	3.38929	17.71837	0.90369	4.29298		
ControlRoom	0.98713	52.24519	2.44812	3.43525		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.406874E-004	8.136467E-005	5.424312E-005	2.758777E-007	5.488707E-007	0.000000E+000	8.987886E-015
Co-60	4.234354E-004	1.011256E-004	6.741706E-005	3.428841E-007	6.821833E-007	0.000000E+000	1.117090E-014
Br-82E	2.486521E+000	1.591988E+000	1.061326E+000	2.226797E-001	4.005966E-003	3.350239E+003	5.815101E-007
Br-82O	1.212338E+001	2.326334E+001	1.550890E+001	2.003972E-002	1.953164E-002	1.036156E+002	5.234649E-008
Br-82P	6.949284E-003	1.662736E-003	1.108492E-003	5.627842E-006	1.119580E-005	6.562324E+004	1.833522E-013
Br-83P	7.450036E-013	1.799157E-013	1.199448E-013	6.036481E-016	1.200300E-015	7.035136E-006	1.966869E-023
Kr-85	3.637952E+005	6.701335E+005	4.467557E+005	3.920366E+002	5.860990E+002	0.000000E+000	9.992214E-002
Kr-85m	3.012783E+000	5.79414E+000	3.719625E+000	3.251684E-003	4.853903E-003	0.000000E+000	8.288325E-007
Kr-88	1.388699E-003	2.579684E-003	1.719801E-003	1.500159E-006	2.237364E-006	0.000000E+000	3.823922E-010
Rb-86	1.276757E-002	3.053797E-003	2.035864E-003	1.033954E-005	2.056944E-005	0.000000E+000	3.368544E-013
Sr-89	4.904456E-001	1.171313E-001	7.808756E-002	3.971472E-004	7.901415E-004	0.000000E+000	1.293876E-011
Sr-90	5.839652E-002	1.394635E-002	9.297569E-003	4.728758E-005	9.408078E-005	0.000000E+000	1.540593E-012
Sr-91	6.050477E-004	1.448621E-004	9.657495E-005	4.900158E-007	9.747830E-007	0.000000E+000	1.596481E-014
Y-90	2.132704E-004	5.095256E-005	3.396838E-005	1.727029E-007	3.435936E-007	0.000000E+000	5.626553E-015
Y-91	6.293777E-003	1.503116E-003	1.002077E-003	5.096500E-006	1.013971E-005	0.000000E+000	1.660401E-013
Y-93	1.167099E-005	2.793818E-006	1.862549E-006	9.452009E-009	1.880294E-008	0.000000E+000	3.799477E-016
Zr-95	8.272233E-003	1.975619E-003	1.317079E-003	6.698588E-006	1.332713E-005	0.000000E+000	2.182349E-011
Zr-97	1.617372E-004	3.868128E-005	2.578755E-005	1.309798E-007	2.605711E-007	0.000000E+000	4.267291E-015
Nb-95	8.005502E-003	1.911941E-003	1.274628E-003	6.482603E-006	1.289741E-005	0.000000E+000	2.111983E-013
Mo-99	4.338694E-002	1.036549E-002	6.910331E-003	3.513403E-005	6.989943E-005	0.000000E+000	1.144645E-012
Tc-99m	1.614125E-006	3.870226E-007	2.580159E-007	1.307353E-009	2.600507E-009	0.000000E+000	4.259453E-017
Ru-103	9.757329E-002	2.330320E-002	1.553547E-002	7.901176E-005	1.571973E-004	0.000000E+000	2.574143E-012
Ru-106	4.526409E-002	1.081007E-002	7.206716E-003	3.665338E-005	7.292354E-005	0.000000E+000	1.194139E-012
Rh-105	1.091093E-002	2.607524E-003	1.738350E-003	8.835640E-006	1.757830E-005	0.000000E+000	2.878607E-013
Sb-125	2.567321E-002	6.131325E-003	4.087550E-003	2.078933E-005	4.136130E-005	0.000000E+000	6.773004E-013
Sb-127	5.027973E-001	1.201100E-001	8.007334E-002	4.071546E-004	8.100416E-004	0.000000E+000	1.326482E-011
Te-127	1.254376E-004	3.003341E-005	2.002231E-005	1.015895E-007	2.020906E-007	0.000000E+000	3.309808E-015
Te-127m	1.941362E-002	4.636434E-003	3.090956E-003	1.572052E-005	3.127666E-005	0.000000E+000	5.121625E-013
Te-129m	8.491719E-002	2.028066E-002	1.352044E-002	6.876326E-005	1.368074E-004	0.000000E+000	2.240255E-012
Te-131m	2.422670E-002	5.790125E-003	3.860085E-003	1.961878E-005	3.903098E-005	0.000000E+000	6.391704E-013
Te-132	7.734920E-001	1.847830E-001	1.231887E-001	6.263590E-004	1.246150E-003	0.000000E+000	2.040637E-011
I-131E	1.640717E+003	1.049890E+003	6.999270E+002	1.469336E+002	2.643308E+000	2.210637E+006	3.837025E-004
I-131O	7.999524E+003	1.534166E+004	1.022777E+004	1.322163E+001	1.288777E+001	6.837021E+004	3.453650E-005
I-131P	4.585444E+000	1.096541E+000	7.310272E-001	3.713385E-003	7.387468E-003	4.330113E+007	1.209794E-010
I-132P	1.954141E-012	4.721652E-013	3.147794E-013	1.583412E-015	3.148387E-015	1.845312E-005	5.159270E-023
I-133E	1.888115E+002	1.209424E+002	8.062836E+001	1.690900E+001	3.041897E-001	2.543971E+005	4.415675E-005
I-1330	9.205787E+002	1.767317E+003	1.178213E+003	1.521840E+000	1.483122E+000	7.867950E+003	3.975276E-006
I-133P	5.276871E-001	1.263178E-001	8.421197E-002	4.273559E-004	8.501439E-004	4.983035E+006	1.392311E-011
I-135E	1.723180E-001	1.106493E-001	7.376643E-002	1.543211E-002	2.776202E-004	2.321741E+002	4.030116E-008
I-1350	8.401710E-001	1.616973E+000	1.077985E+000	1.389594E-003	1.353593E-003	7.180643E+000	3.629927E-009
I-135P	4.815919E-004	1.155706E-004	7.704727E-005	3.900786E-007	7.758888E-007	4.5477740E+003	1.270901E-014
Xe-133	2.999095E+007	5.525568E+007	3.683712E+007	3.232091E+004	4.831750E+004	0.000000E+000	8.237958E+000
Xe-135	1.345161E+004	2.484386E+004	1.656261E+004	1.450688E+001	2.167170E+001	0.000000E+000	3.697606E-003
Cs-134	1.639732E+000	3.921770E-001	2.614513E-001	1.327897E-003	2.641721E-003	0.000000E+000	4.326188E-011
Cs-136	3.910913E-001	9.354477E-002	6.236319E-002	3.167170E-004	6.300750E-004	0.000000E+000	1.031841E-011
Cs-137	8.427596E-001	2.015637E-001	1.343758E-001	6.824882E-004	1.357743E-003	0.000000E+000	2.223494E-011
Ba-140	7.347858E-001	1.754964E-001	1.169976E-001	5.950080E-004	1.183790E-003	0.000000E+000	1.938492E-011
La-140	1.799417E-003	4.299946E-004	2.866632E-004	1.457157E-006	2.898991E-006	0.000000E+000	4.747337E-014
Ce-141	1.943817E-002	4.642397E-003	3.094931E-003	1.574041E-005	3.131622E-005	0.000000E+000	5.128108E-013
Ce-143	2.704739E-003	6.464161E-004	4.309443E-004	2.190296E-006	4.357532E-006	0.000000E+000	7.135878E-014
Ce-144	1.640724E-002	3.918418E-003	2.612279E-003	1.328605E-005	2.643319E-005	0.000000E+000	4.328493E-013
Pr-143	6.441727E-003	1.538537E-003	1.025691E-003	5.216320E-006	1.037807E-005	0.000000E+000	1.699439E-013
Nd-147	2.743114E-003	6.551743E-004	4.367829E-004	2.221295E-006	4.419345E-006	0.000000E+000	7.236815E-014
Np-238	1.975445E-003	4.720007E-004	3.146673E-004	1.599692E-006	3.182582E-006	0.000000E+000	5.211702E-014
Np-239	9.377252E-002	2.240437E-002	1.493625E-002	7.593568E-005	1.510742E-004	0.000000E+000	2.473939E-012
Pu-238	8.781395E-005	2.097187E-005	1.398125E-005	7.110886E-008	1.4147		

CPU ClockTime = 4755.510000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	55.34875	208.57741	8.79131	64.14006	8.53380 ending at	14044.0 Sec
LPZ	3.56089	18.27883	0.92076	4.48165		
ControlRoom	1.06011	58.58758	2.64125	3.70136		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.799933E-004	6.000412E-005	4.000275E-005	1.485960E-007	2.899816E-007	0.000000E+000	3.933389E-015
Co-60	2.858701E-004	9.529363E-005	6.352909E-005	2.360029E-007	4.605563E-007	0.000000E+000	6.247081E-015
Br-82E	8.096915E-006	7.255540E-006	4.837029E-006	1.027012E-006	1.304472E-008	1.549115E-002	2.179088E-012
Br-82O	3.947763E-005	1.060235E-004	7.068236E-005	7.963948E-008	6.360133E-008	4.791077E-004	1.690155E-013
Br-82P	2.262911E-008	7.577978E-009	5.051988E-009	1.868755E-011	3.645714E-011	3.034349E-001	4.946699E-019
Kr-85	2.467789E+005	6.345022E+005	4.230015E+005	2.959965E+002	3.975776E+002	0.000000E+000	6.129534E-002
Rb-86	3.310472E-003	1.105440E-003	7.369602E-004	2.733313E-006	5.333398E-006	0.000000E+000	7.235181E-014
Sr-89	2.339454E-001	7.799227E-002	5.199484E-002	1.931372E-004	3.769021E-004	0.000000E+000	5.112413E-012
Sr-90	3.972818E-002	1.324320E-002	8.828798E-003	3.279799E-005	6.400481E-005	0.000000E+000	8.681745E-013
Y-91	3.151871E-003	1.050750E-003	7.005002E-004	2.602073E-006	5.077880E-006	0.000000E+000	6.887782E-014
Zr-95	4.254177E-003	1.418220E-003	9.454798E-004	3.512096E-006	6.853771E-006	0.000000E+000	9.296647E-014
Nb-95	3.258536E-003	1.086372E-003	7.242481E-004	2.690142E-006	5.249725E-006	0.000000E+000	7.120906E-014
Mo-99	4.190052E-005	1.399277E-005	9.328514E-006	3.459570E-008	6.750469E-008	0.000000E+000	9.157645E-016
Ru-103	4.202156E-002	1.400946E-002	9.339642E-003	3.469161E-005	6.769961E-005	0.000000E+000	9.182997E-013
Ru-106	2.938959E-002	9.797005E-003	6.531336E-003	2.426288E-005	4.734863E-005	0.000000E+000	6.422472E-013
Sb-125	1.718536E-002	5.728684E-003	3.819123E-003	1.418755E-005	2.768679E-005	0.000000E+000	3.755495E-013
Sb-127	3.137740E-003	1.047313E-003	6.982087E-004	2.590624E-006	5.055119E-006	0.000000E+000	6.857494E-014
Te-127m	1.121371E-002	3.738205E-003	2.492137E-003	9.257614E-006	1.806605E-005	0.000000E+000	2.450524E-013
Te-129m	3.384572E-002	1.128398E-002	7.522655E-003	2.794195E-005	5.452778E-005	0.000000E+000	7.396337E-013
Te-132	2.094359E-003	6.992157E-004	4.661439E-004	1.729201E-006	3.374160E-006	0.000000E+000	4.577272E-014
I-131E	1.188507E+002	1.062059E+002	7.080392E+001	1.507493E+001	1.914766E-001	2.273871E+005	3.198539E-005
I-131O	5.794715E+002	1.551947E+003	1.034631E+003	1.168264E+000	9.335687E-001	7.032591E+003	2.479344E-006
I-131P	3.321616E-001	1.109250E-001	7.395000E-002	2.742529E-004	5.351353E-004	4.453974E+006	7.259584E-012
I-133E	1.198330E-007	1.076350E-007	7.175673E-008	1.519967E-008	1.930600E-010	2.292664E-004	3.225047E-014
I-133O	5.842635E-007	1.572857E-006	1.048572E-006	1.179276E-009	9.412928E-010	7.090713E-006	2.502741E-015
I-133P	3.349071E-010	1.124189E-010	7.494602E-011	2.766179E-013	5.395607E-013	4.490785E-003	7.322270E-021
Xe-133	6.571018E+005	1.691108E+006	1.127406E+006	7.884237E+002	1.058637E+003	0.000000E+000	1.632681E-001
Cs-134	1.091048E+000	3.642300E-001	2.428200E-001	9.008149E-004	1.757753E-003	0.000000E+000	2.384489E-011
Cs-136	6.776198E-002	2.262976E-002	1.508651E-002	5.594854E-005	1.091692E-004	0.000000E+000	1.480979E-012
Cs-137	5.733786E-001	1.914126E-001	1.276084E-001	4.734050E-004	9.237521E-004	0.000000E+000	1.253120E-011
Ba-140	1.218271E-001	4.062637E-002	2.708425E-002	1.005782E-004	1.962718E-004	0.000000E+000	2.662344E-012
Ce-141	7.608155E-003	2.536531E-003	1.691021E-003	6.281053E-006	1.225726E-005	0.000000E+000	1.662618E-013
Ce-144	1.049501E-002	3.498519E-003	2.332346E-003	8.664264E-006	1.690817E-005	0.000000E+000	2.293462E-013
Pr-143	1.163267E-003	3.879123E-004	2.586082E-004	9.603711E-007	1.874104E-006	0.000000E+000	2.542139E-014
Nd-147	3.621349E-004	1.207708E-004	8.051390E-005	2.989733E-007	5.834242E-007	0.000000E+000	7.913940E-015
Np-239	3.034242E-005	1.013599E-005	6.757329E-006	2.505313E-008	4.888380E-008	0.000000E+000	6.631687E-016
Pu-238	5.980910E-005	1.993707E-005	1.329138E-005	4.937599E-008	9.635654E-008	0.000000E+000	1.307000E-015
Pu-239	4.314095E-006	1.438082E-006	9.587214E-007	3.561543E-009	6.950301E-009	0.000000E+000	9.427532E-017
Pu-240	6.534265E-006	2.178165E-006	1.452110E-006	5.394426E-009	1.052715E-008	0.000000E+000	1.427924E-016
Pu-241	1.745886E-003	5.819830E-004	3.879886E-004	1.441333E-006	2.812741E-006	0.000000E+000	3.815261E-014
Cm-242	2.411485E-004	8.038813E-005	5.359208E-005	1.990829E-007	3.885067E-007	0.000000E+000	5.269797E-015
Cm-244	5.765137E-005	1.921781E-005	1.281188E-005	4.759465E-008	9.288029E-008	0.000000E+000	1.259848E-015

## CUMULATIVE RAPTOR BENCHMARK (CASE 2)

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RRRRRR      AAAA      PPPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR  RR  AA  AA  AA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AAA  AAA  PP  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  PP  TT  OO  OO  RR  RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT  OO  2.10B  OO  RRRRRRRR
RRRRRRR      AAAAAAAAAA      PPPPPP      TT  OO  OO  RRRRRR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OO  OO  RR  RR
RR  RR  AA  AA  PP  TT  OOOOOOO  RR  RR
RR      RR  AA  AA  PP  TT  OOO      RR  RR
```

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IIIIIIIIII  NN      NN  PPPPPP  UU      UU  TTTTTTTTTT
IIIIIIIIII  NNN      NN  PPPPPPPP  UU      UU  TTTTTTTTTT
II      NNNN      NN  PP  PP  UU  UU  TT
II      NN  NN      NN  PP  PP  UU  UU  TT
II      NN  NN      NN  PPPPPPPP  UU  UU  TT
II      NN  NN      NN  PPPPPP  UU  UU  TT
II      NN      NN  NN  PP  UU  UU  TT
II      NN      NN  NN  PP  UUU  UUU  TT
IIIIIIIIII  NN      NNN  PP      UUUUUUUU  TT
IIIIIIIIII  NN      NN  PP      UU      TT
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Execution Time: 22:16:09 on 10/15/00

### MODELED NUCLIDE PARAMETERS

Isotope	Group	Half-Life	Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Co-58	Noble Mtls	7.0800E+001 Dys	1.7612E-001	3.2264E+003	1.0878E+004
Co-60	Noble Mtls	5.2696E+000 Yrs	4.6620E-001	5.9940E+004	2.1867E+005
Br-82	Halogens	1.4710E+000 Dys	4.8100E-001	7.6220E+002	1.5281E+003
Br-83	Halogens	2.4000E+000 Hrs	1.4134E-003	4.2180E+000	8.9170E+001
Br-84	Halogens	3.1800E+001 Min	3.4817E-001	5.2910E+000	8.3990E+001
Kr-85	Noble Gas	1.0730E+001 Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000 Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-87	Noble Gas	1.2700E+000 Hrs	1.5244E-001	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000 Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Rb-86	Cesiums	1.8650E+001 Dys	1.7797E-002	4.9210E+003	6.6230E+003
Sr-89	Stront/Bar	5.0520E+001 Dys	2.8601E-004	2.9452E+001	4.1440E+004
Sr-90	Stront/Bar	2.9100E+001 Yrs	2.7861E-005	9.9530E+002	1.2987E+006
Sr-91	Stront/Bar	9.5000E+000 Hrs	1.8219E-001	3.6741E+001	1.6824E+003
Sr-92	Stront/Bar	2.7100E+000 Hrs	2.5123E-001	1.4504E+001	8.0660E+002
Y-90	Lanthanum	2.6700E+000 Dys	7.0300E-004	1.9129E+000	8.4360E+003
Y-91	Lanthanum	5.8500E+001 Dys	9.6200E-004	3.1450E+001	4.8840E+004
Y-92	Lanthanum	3.5400E+000 Hrs	4.8100E-002	3.8850E+000	7.8070E+002
Y-93	Lanthanum	1.0200E+001 Hrs	1.7760E-002	3.4262E+000	2.1534E+003
Zr-95	Lanthanum	6.4020E+001 Dys	1.3320E-001	5.3280E+003	2.3643E+004
Zr-97	Lanthanum	1.6800E+001 Hrs	1.6398E-001	8.5655E+001	4.3327E+003
Nb-95	Lanthanum	3.4970E+001 Dys	1.3838E-001	1.3246E+003	5.8090E+003
Mo-99	Noble Mtls	2.7476E+000 Dys	2.6936E-002	5.6240E+001	3.9590E+003
Tc-99m	Noble Mtls	6.0100E+000 Hrs	2.1793E-002	1.8537E+002	3.2560E+001
Ru-103	Noble Mtls	3.9270E+001 Dys	8.3287E-002	9.5090E+002	8.9577E+003
Ru-105	Noble Mtls	4.4400E+000 Hrs	1.4097E-001	1.5355E+001	4.5510E+002
Ru-106	Noble Mtls	1.0200E+000 Yrs	3.8480E-002	6.3640E+003	4.7730E+005
Rh-105	Noble Mtls	3.5400E+001 Hrs	1.3764E-002	1.0656E+001	9.5460E+002
Sb-125	Tellurium	2.7580E+000 Yrs	7.4740E-002	1.1988E+003	1.2210E+004
Sb-127	Tellurium	3.8400E+000 Dys	1.2321E-001	2.2755E+002	6.0310E+003
Sb-129	Tellurium	4.4000E+000 Hrs	2.6418E-001	3.5964E+001	6.4380E+002
Te-127	Tellurium	9.4000E+000 Hrs	8.9540E-004	6.8080E+000	3.1820E+002
Te-127m	Tellurium	1.0900E+002 Dys	5.4390E-004	3.5742E+002	2.1497E+004
Te-129	Tellurium	1.1600E+000 Hrs	1.0175E-002	1.8834E+000	7.7330E+001
Te-129m	Tellurium	3.3600E+001 Dys	4.5826E+000	1.4244E+003	5.8724E+004
Te-131m	Tellurium	1.3500E+000 Dys	1.5619E+000	4.8335E+005	1.9773E+004
Te-132	Tellurium	3.2600E+000 Dys	1.4251E+001	4.5317E+005	2.2506E+004
Te-133m	Tellurium	5.5400E+001 Min	5.2469E-001	1.8973E+004	7.1746E+005
I-134	Tellurium	4.2000E+001 Min	5.4168E-001	2.9097E+003	2.2459E+002
I-131	Halogens	8.0400E+000 Dys	6.7340E-002	1.0804E+006	3.2893E+004
I-132	Halogens	2.2800E+000 Hrs	4.1440E-001	6.4380E+003	3.8110E+002
I-133	Halogens	2.0800E+001 Hrs	1.0878E-001	1.7982E+005	5.8460E+003
I-134	Halogens	5.2600E+001 Min	4.8100E-001	1.0656E+003	1.3135E+002
I-135	Halogens	6.5700E+000 Hrs	3.0688E-001	3.1302E+004	1.2284E+003
Xe-133	Noble Gas	5.2430E+000 Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000 Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Cs-134	Cesiums	2.0650E+000 Yrs	2.8009E-001	4.1070E+004	4.6250E+004
Cs-136	Cesiums	1.3160E+001 Dys	3.9220E-001	6.4010E+003	7.3260E+003
Cs-137	Cesiums	3.0170E+001 Yrs	1.0082E-001	2.9341E+004	3.1931E+004
Cs-138	Cesiums	3.2200E+001 Min	4.4770E-001	1.3209E+001	1.0138E+002
Ba-139	Stront/Bar	1.3960E+000 Hrs	8.0290E-003	8.8800E+000	1.7168E+002
Ba-140	Stront/Bar	1.2750E+001 Dys	3.1746E-002	9.4720E+002	3.7370E+003
La-140	Lanthanum	1.6780E+000 Dys	4.3290E-001	2.5419E+002	4.8470E+003
La-141	Lanthanum	3.9000E+000 Hrs	8.8430E-003	3.4780E+001	5.8090E+002
La-142	Lanthanum	1.5400E+000 Hrs	5.3280E-001	3.2338E+001	2.5308E+002
Ce-141	Cerium	3.2500E+001 Dys	1.2691E-002	9.4350E+001	8.9540E+003
Ce-143	Cerium	1.3800E+000 Dys	4.7730E-002	2.3051E+001	3.3892E+003
Ce-144	Cerium	2.8460E+002 Dys	1.0260E-002	1.0804E+003	3.7370E+005
Pr-143	Lanthanum	1.3570E+001 Dys	7.7700E-005	6.2160E-006	8.1030E+003
Nd-147	Lanthanum	1.0980E+001 Dys	2.2903E-002	6.7340E+001	6.8450E+003
Np-238	Cerium	2.1170E+000 Dys	1.0064E-001	9.0650E+001	3.7000E+004
Np-239	Cerium	2.3550E+000 Dys	2.8453E-002	2.8194E+001	2.5086E+003
Pu-238	Cerium	8.7700E+001 Yrs	1.8056E-005	1.4282E+003	2.8823E+008
Pu-239	Cerium	2.4100E+004 Yrs	1.5688E-005	1.3875E+003	3.0821E+008
Pu-240	Cerium	6.5600E+003 Yrs	1.7575E-005	1.3912E+003	3.0821E+008
Pu-241	Cerium	1.4400E+001 Yrs	2.6825E-007	3.3855E+001	4.9580E+006
Am-241	Lanthanum	4.3270E+002 Yrs	3.0266E-003	5.9200E+003	4.4400E+008
Cm-242	Lanthanum	1.6280E+002 Dys	2.1053E-005	3.4817E+003	1.7279E+007
Cm-244	Lanthanum	1.8100E+001 Yrs	1.8167E-005	3.7370E+003	2.4790E+008

### MODEL PARAMETERS

Core Power Level = 3910.00 MW

Core Decay Time = 121.000000 Sec  
Decay Enabled, Daughter Product Tracking Not Enabled

#### NODE PARAMETERS

Name	Volume (cu.ft.)	Inventory Tracked?
Drywell	2.7000E+005	Yes
Sprayed	8.4000E+005	Yes
Unsprayed	5.6000E+005	Yes
SecCont	3.0000E+005	Yes
MSIVVol	5.7820E+002	Yes
SuppPool	1.7090E+005	Yes
ControlRoom	2.5300E+005	Yes
OutofCR	1.0000E+000	No

#### RELEASE POINTS

Name  
Encl\_Bldg\_Vent  
SGTS\_Vent

#### RECEIPT POINTS

Name  
EAB  
LPZ  
CR\_Intake

#### INITIAL INVENTORIES

Co-58	In Core	at 1.5290E+002 Ci/MW				
Co-60	In Core	at 1.8300E+002 Ci/MW				
Br-82	In Core	at 1.9500E+002 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Br-83	In Core	at 3.5220E+003 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Br-84	In Core	at 6.1990E+003 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Kr-85	In Core	at 3.8800E+002 Ci/MW				
Kr-85m	In Core	at 9.1100E+003 Ci/MW				
Kr-87	In Core	at 1.6570E+004 Ci/MW				
Kr-88	In Core	at 2.2360E+004 Ci/MW				
Rb-86	In Core	at 7.3760E+001 Ci/MW				
Sr-89	In Core	at 2.7950E+004 Ci/MW				
Sr-90	In Core	at 3.1510E+003 Ci/MW				
Sr-91	In Core	at 3.6040E+004 Ci/MW				
Sr-92	In Core	at 3.7650E+004 Ci/MW				
Y-90	In Core	at 3.2510E+003 Ci/MW				
Y-91	In Core	at 3.5600E+004 Ci/MW				
Y-92	In Core	at 3.7800E+004 Ci/MW				
Y-93	In Core	at 4.2980E+004 Ci/MW				
Zr-95	In Core	at 4.6600E+004 Ci/MW				
Zr-97	In Core	at 4.5870E+004 Ci/MW				
Nb-95	In Core	at 4.6750E+004 Ci/MW				
Mo-99	In Core	at 5.1380E+004 Ci/MW				
Tc-99m	In Core	at 4.4990E+004 Ci/MW				
Ru-103	In Core	at 4.5190E+004 Ci/MW				
Ru-105	In Core	at 3.3040E+004 Ci/MW				
Ru-106	In Core	at 1.9680E+004 Ci/MW				
Rh-105	In Core	at 3.0870E+004 Ci/MW				
Sb-125	In Core	at 5.5550E+002 Ci/MW				
Sb-127	In Core	at 2.2340E+004 Ci/MW				
Sb-129	In Core	at 9.3090E+003 Ci/MW				
Te-127	In Core	at 3.2200E+003 Ci/MW				
Te-127m	In Core	at 4.2970E+002 Ci/MW				
Te-129	In Core	at 9.1610E+003 Ci/MW				
Te-129m	In Core	at 1.9900E+003 Ci/MW				
Te-131m	In Core	at 4.0790E+003 Ci/MW				
Te-132	In Core	at 3.9080E+004 Ci/MW				
Te-133m	In Core	at 2.0680E+004 Ci/MW				
Te-134	In Core	at 4.6880E+004 Ci/MW				
I-131	In Core	at 2.7570E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-132	In Core	at 3.9770E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-133	In Core	at 5.5140E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-134	In Core	at 6.0740E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
I-135	In Core	at 5.1530E+004 Ci/MW	0.0485	elem.	0.0015	org. 0.9500 part.
Xe-133	In Core	at 5.4250E+004 Ci/MW				
Xe-135	In Core	at 2.1540E+004 Ci/MW				
Cs-134	In Core	at 8.1940E+003 Ci/MW				
Cs-136	In Core	at 2.4040E+003 Ci/MW				
Cs-137	In Core	at 4.1970E+003 Ci/MW				
Cs-138	In Core	at 5.1020E+004 Ci/MW				
Ba-139	In Core	at 4.9940E+004 Ci/MW				
Ba-140	In Core	at 4.9270E+004 Ci/MW				
La-140	In Core	at 5.0690E+004 Ci/MW				
La-141	In Core	at 4.6420E+004 Ci/MW				
La-142	In Core	at 4.4660E+004 Ci/MW				
Ce-141	In Core	at 4.5680E+004 Ci/MW				
Ce-143	In Core	at 4.3550E+004 Ci/MW				
Ce-144	In Core	at 3.5750E+004 Ci/MW				
Pr-143	In Core	at 4.2630E+004 Ci/MW				
Nd-147	In Core	at 1.9050E+004 Ci/MW				
Np-238	In Core	at 1.5800E+004 Ci/MW				
Np-239	In Core	at 6.5700E+005 Ci/MW				
Pu-238	In Core	at 1.8950E+002 Ci/MW				
Pu-239	In Core	at 1.3660E+001 Ci/MW				
Pu-240	In Core	at 2.0690E+001 Ci/MW				
Pu-241	In Core	at 5.5500E+003 Ci/MW				
Am-241	In Core	at 7.1300E+000 Ci/MW				
Cm-242	In Core	at 2.1690E+003 Ci/MW				
Cm-244	In Core	at 4.5780E+002 Ci/MW				

#### RELEASE PARAMETERS

0.000E+000	Sec	to 5.000E-001	Hrs	: Noble Gas	Into Drywell	at 5.0000E+000	percent
0.000E+000	Sec	to 5.000E-001	Hrs	: Halogens	Into Drywell	at 5.0000E+000	percent
0.000E+000	Sec	to 5.000E-001	Hrs	: Cesiums	Into Drywell	at 5.0000E+000	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Noble Gas	Into Drywell	at 9.5000E+001	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Halogens	Into Drywell	at 2.5000E+001	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Cesiums	Into Drywell	at 2.0000E+001	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Tellurium	Into Drywell	at 5.0000E+000	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Stront/Bar	Into Drywell	at 2.0000E+000	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Noble Mtls	Into Drywell	at 2.5000E-001	percent
5.000E-001	Hrs	to 2.000E+000	Hrs	: Lanthanum	Into Drywell	at 2.0000E-002	percent

5.000E-001 Hrs to 2.000E+000 Hrs : Cerium Into Drywell at 5.0000E-002 percent  
0.000E+000 Sec to 5.000E-001 Hrs : Halogens Into SuppPool at 1.0000E+001 percent  
5.000E-001 Hrs to 2.000E+000 Hrs : Halogens Into SuppPool at 5.0000E+001 percent

#### FLOW PARAMETERS

Flow#1 from Drywell to MSIVVol  
0.000E+000 Sec to 1.800E+001 Min at 2.3020E+000 percent per day

Flow#2 from Drywell to Unsprayed  
0.000E+000 Sec to 2.000E+000 Hrs at 1.6000E+003 percent per day  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#3 from Unsprayed to Drywell  
2.000E+000 Hrs to 7.201E+003 Sec is well-mixed

Flow#4 from Sprayed to Unsprayed  
0.000E+000 Sec to 3.000E+001 Min at 3.2000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.2000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 3.2000E+003 percent per day

Flow#5 from Unsprayed to Sprayed  
0.000E+000 Sec to 3.000E+001 Min at 4.8000E+003 percent per day  
3.000E+001 Min to 1.000E+000 Dys at 1.8000E+004 percent per day  
1.000E+000 Dys to 3.000E+001 Dys at 4.8000E+003 percent per day

Flow#6 from Sprayed to SecCont  
1.000E+000 Min to 4.000E+000 Dys at 3.8500E-001 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#7 from Unsprayed to SecCont  
1.000E+000 Min to 4.000E+000 Dys at 3.8500E-001 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.9250E-001 percent per day

Flow#8 from Sprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#9 from SecCont to SGTS\_Vent  
1.000E+000 Min to 3.000E+001 Dys at 4.0010E+003 cfm

Flow#10 from MSIVVol to SecCont  
1.800E+001 Min to 3.000E+001 Min at 1.1000E+020 cfm

Flow#11 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 1.800E+001 Min at 2.0000E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0000E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0000E+003 cfm

Flow#12 from ControlRoom to OutofCR  
0.000E+000 Sec to 1.800E+001 Min at 2.0100E+003 cfm  
1.800E+001 Min to 3.000E+000 Dys at 2.0100E+003 cfm  
3.000E+000 Dys to 3.000E+001 Dys at 4.0100E+003 cfm

Flow#13 from Drywell to SecCont  
1.800E+001 Min to 4.000E+000 Dys at 2.3020E+000 percent per day  
4.000E+000 Dys to 3.000E+001 Dys at 1.4750E+000 percent per day

Flow#14 from Unsprayed to Encl\_Bldg\_Vent  
0.000E+000 Sec to 1.000E+000 Min at 3.8500E-001 percent per day

Flow#15 from ControlRoom to ControlRoom  
1.800E+001 Min to 3.000E+000 Dys at 4.0000E+003 cfm

Flow#16 from CR\_Intake to ControlRoom  
0.000E+000 Sec to 3.000E+001 Dys at 1.0000E+001 cfm

Flow#17 from SuppPool to SecCont  
1.000E+001 Min to 3.000E+001 Dys at 1.5000E-001 cfm

#### FILTER PARAMETERS

SGTS\_Filter on Flow#9 is Not Tracked  
1.000E+000 Min to 3.000E+001 Dys for Elemental Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Organic Species of Halogens at 0.989750  
1.000E+000 Min to 3.000E+001 Dys for Particulate Species of All Groups at 0.989750

CRFAS\_HEPA on Flow#15 is Not Tracked  
1.800E+001 Min to 3.000E+000 Dys for Particulate Species of All Groups at 0.990000

CRFAS\_HEPA on Flow#11 is Not Tracked  
3.000E+000 Dys to 3.000E+001 Dys for Particulate Species of All Groups at 0.990000

SuppPool\_Flash on Flow#17 is Not Tracked  
1.000E+001 Min to 3.000E+001 Dys for Particulate Species of All Groups at 1.000000

#### REMOVAL PARAMETERS

Drywell\_Dep from Drywell  
0.000E+000 Sec to 5.000E-001 Hrs for All Groups Particulate at 0.74740 1/hr  
5.000E-001 Hrs to 2.000E+000 Hrs for All Groups Particulate at 0.29830 1/hr  
2.000E+000 Hrs to 5.000E+000 Hrs for All Groups Particulate at 1.05500 1/hr  
5.000E+000 Hrs to 8.330E+000 Hrs for All Groups Particulate at 0.63900 1/hr  
8.330E+000 Hrs to 1.200E+001 Hrs for All Groups Particulate at 0.55710 1/hr  
1.200E+001 Hrs to 1.940E+001 Hrs for All Groups Particulate at 0.52360 1/hr  
1.940E+001 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.50680 1/hr  
0.000E+000 Sec to 7.000E+000 Hrs for Halogens Elemental at 0.86600 1/hr

Containment\_Spray from Sprayed  
0.000E+000 Sec to 3.000E+001 Min for Halogens Elemental at 0.68230 1/hr  
3.000E+001 Min to 2.800E+000 Hrs for Halogens Elemental at 20.68000 1/hr  
3.000E+001 Min to 3.000E+000 Hrs for All Groups Particulate at 9.51000 1/hr  
3.000E+000 Hrs to 2.400E+001 Hrs for All Groups Particulate at 0.95100 1/hr

Unsprayed\_Removal from Unsprayed  
0.000E+000 Sec to 2.800E+000 Hrs for Halogens Elemental at 1.09200 1/hr

#### DIFFUSION PARAMETERS

Diffusion from Encl\_Bldg\_Vent to EAB  
0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.

Diffusion from Encl\_Bldg\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 7.5000E-003 s/cu.m.

Diffusion from SGTS\_Vent to EAB  
0.000E+000 Sec to 3.000E+001 Dys at 6.0000E-004 s/cu.m.

Diffusion from SGTS\_Vent to LPZ  
0.000E+000 Sec to 2.000E+000 Hrs at 1.2500E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 6.0000E-005 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 4.5000E-005 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 2.0000E-005 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 7.0000E-006 s/cu.m.

Diffusion from SGTS\_Vent to CR\_Intake  
0.000E+000 Sec to 2.000E+000 Hrs at 8.0000E-004 s/cu.m.  
2.000E+000 Hrs to 8.000E+000 Hrs at 5.0000E-004 s/cu.m.  
8.000E+000 Hrs to 1.000E+000 Dys at 2.5000E-004 s/cu.m.  
1.000E+000 Dys to 4.000E+000 Dys at 1.6000E-004 s/cu.m.  
4.000E+000 Dys to 3.000E+001 Dys at 1.3000E-004 s/cu.m.

#### DOSE LOCATIONS

EAB (with 2-hr sliding window)  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

LPZ  
0.000E+000 Sec to 8.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
8.000E+000 Hrs to 2.400E+001 Hrs at Breathing Rate=1.8000E-004 cu.m./s  
2.400E+001 Hrs to 3.000E+001 Dys at Breathing Rate=2.3000E-004 cu.m./s  
0.000E+000 Sec to 3.000E+001 Dys at Occupancy Factor=1.000000

ControlRoom  
0.000E+000 Sec to 3.000E+001 Dys at Breathing Rate=3.5000E-004 cu.m./s  
0.000E+000 Sec to 1.000E+000 Dys at Occupancy Factor=1.000000  
1.000E+000 Dys to 4.000E+000 Dys at Occupancy Factor=0.600000  
4.000E+000 Dys to 3.000E+001 Dys at Occupancy Factor=0.400000

RRRRRR	AAAA	PPPPPP	TTTTTTTT	OOO	RRRRRR					
RRRRRRRR	AAAAAA	PPPPPPPP	TTTTTTTTTT	OOOOOOO	RRRRRRRR					
RR	RR	AA	AA	PP	PP	TT	OO	OO	RR	RR
RR	RR	AAA	AAA	PP	PP	TT	OO	OO	RR	RR
RR	RR	AA	AA	PP	PP	TT	OO	OO	RR	RR
RRRRRRRR	AAAAAAAAAA	PPPPPPPP	TTTTTTTT	OO	2.10B	OO	RRRRRRRR			
RRRRRR	AAAAAAAAAA	PPPPPP	TT	OO	OO	OO	RRRRRR			
RR	RR	AA	AA	PP	TT	OO	OO	RR	RR	
RR	RR	AA	AA	PP	TT	OO	OO	RR	RR	
RR	RR	AA	AA	PP	TT	OOOOOOO	RR	RR		
RR	RR	AA	AA	PP	TT	OOO	RR	RR		

UU	UU	TTTTTTTTTT	PPPPPP	UU	UU	TTTTTTTTTT
UUUUUUUU	UU	TTTTTTTTTT	PPPPPPPP	UU	UU	TTTTTTTTTT
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PP	PP	UU	UU
UU	UU	TT	PPPPPP	UU	UU	UU
UU	UU	TT	PPPPPP	UU	UU	UU
UU	UU	TT	PP	UU	UU	UU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU
UUUUUUUU	UUUUUUUU	TT	PP	UUUUUUUU	UUUUUUUU	UUUUUUUU

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Time = -121.000000 Seconds
CPU ClockTime = 0.060000 Seconds
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	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	0.00000	0.00000	0.00000	0.00000	ending at	0.0 Sec
LPZ	0.00000	0.00000	0.00000	0.00000		
ControlRoom	0.00000	0.00000	0.00000	0.00000		

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.978390E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155300E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.697883E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.143675E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.243275E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.678945E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.065653E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.308247E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.175547E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	6.365714E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.302618E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.562010E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.478870E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.742760E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.884016E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092845E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.409164E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.472115E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.271141E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391960E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.477980E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.680518E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822060E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.793517E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000			

[illegible]

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Time = 0.000000 Seconds
CPU ClockTime = 0.280000 Seconds
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	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window			
EAB	0.00000	0.00000	0.00000	0.00000	0.00000	ending at 0.0 Sec		
LPZ	0.00000	0.00000	0.00000	0.00000				
ControlRoom	0.00000	0.00000	0.00000	0.00000				
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.978308E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155296E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.695443E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82O	1.142920E+003	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82P	7.238497E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83E	6.114424E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83O	2.045698E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-83P	1.295609E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84E	1.124933E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84O	3.479358E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-84P	2.20594E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85	1.517080E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-85m	3.543534E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-87	6.361102E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Kr-88	8.671334E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rb-86	2.883866E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-89	1.092824E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.405712E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.459514E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.270679E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391937E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.468285E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.676684E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.791032E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827874E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.008248E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.752303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766885E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.285103E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694860E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.206223E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.172003E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.732732E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.620598E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.255903E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680112E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.510729E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.780675E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.593743E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.527573E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	7.884410E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.773006E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227606E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131O	1.616785E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131P	1.023964E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132E	7.465113E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132O	2.308798E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-132P	1.462239E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133E	1.044477E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133O	3.230341E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-133P	2.045882E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134E	1.121636E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134O	3.468977E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-134P	2.197019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135E	9.737302E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135O	3.011536E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-135P	1.907306E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-133	2.120782E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Xe-135	8.400606E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-134	3.203850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-136	9.398947E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-137	1.641027E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cs-138	1.910134E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-139	1.920337E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926310E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980833E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.804212E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.719988E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786035E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701608E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397820E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666714E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.447892E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.174968E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.567811E+009	0.000000E+000	0					

Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480739E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-244	1.789998E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000

Time = 60.000000 Seconds  
CPU ClockTime = 0.390000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window ending at	60.0 Sec	
ControlRoom	LPZ	0.00000	0.00006	0.00000	0.00000			
ControlRoom		0.00000	0.00001	0.00000	0.00000			
Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.978267E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155295E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cr-82E	3.694234E+004	6.079051E+001	3.516008E-003	3.279322E-001	0.000000E+000	4.798743E-004	1.231415E+002	1.933608E-009
Br-82O	1.142547E+003	1.893694E+000	1.099232E-004	1.025191E-002	0.000000E+000	1.491223E-005	3.808499E+000	6.027470E-011
Br-82P	7.236128E+005	1.191915E+003	6.940516E-002	6.466203E+000	0.000000E+000	9.405718E-003	2.412049E+003	3.805948E-008
Br-83E	6.582662E+005	1.083251E+003	6.265788E-002	5.843777E+000	0.000000E+000	8.551397E-003	2.194309E+003	3.446091E-008
Br-83O	2.035875E+004	3.374452E+001	1.958914E-003	1.826899E-001	0.000000E+000	2.657372E-004	6.786522E+001	1.074221E-009
Br-83P	1.289387E+007	2.123922E+004	1.236852E+000	1.152282E+002	0.000000E+000	1.676106E-001	4.298130E+004	6.782991E-007
Br-84E	1.100736E+006	1.811642E+003	1.048195E-001	9.774587E+000	0.000000E+000	1.430348E-002	3.669788E+003	5.766554E-008
Br-84O	3.404339E+004	5.643474E+001	3.277039E-003	3.055761E-001	0.000000E+000	4.444849E-004	1.134986E+002	1.797559E-009
Br-84P	2.156081E+007	3.552072E+004	2.069111E+000	1.927364E+002	0.000000E+000	2.803537E-001	7.188244E+004	1.135039E-006
Kr-85	1.517079E+006	2.514451E+003	1.459555E-001	1.361247E+001	0.000000E+000	1.980044E-002	0.000000E+000	8.003198E-008
Kr-85m	3.534409E+007	5.858155E+004	3.400610E+000	3.171496E+002	0.000000E+000	4.613196E-001	0.000000E+000	1.864742E-006
Kr-87	6.303501E+007	1.044839E+005	6.065864E+000	5.656873E+002	0.000000E+000	8.228376E-001	0.000000E+000	3.326610E-006
Kr-88	8.636132E+007	1.431426E+005	8.309512E+000	7.749567E+002	0.000000E+000	1.127237E+000	0.000000E+000	4.566677E-006
Rb-86	2.883792E+005	4.750088E+002	2.765961E-002	2.576943E+000	0.000000E+000	3.748412E-003	0.000000E+000	1.516753E-008
Sr-89	1.092814E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232041E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.404004E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.453305E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.270450E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.463501E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.674786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.822019E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.789800E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827849E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.007897E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.748938E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766864E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.281764E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694850E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.205829E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.172002E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.731638E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.611104E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.254361E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680105E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.475939E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.780564E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.593174E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.527348E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	7.786378E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.743985E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.227293E+006	8.601759E+003	4.975072E-001	4.640017E+001	0.000000E+000	6.790128E-002	1.742432E+004	2.735999E-007
I-131O	1.616688E+005	2.679547E+002	1.555389E-002	1.450626E+000	0.000000E+000	2.110052E-003	5.388964E+002	8.528696E-009
I-131P	1.023903E+008	1.686540E+005	9.820674E+000	9.149552E+002	0.000000E+000	1.330891E+000	3.413011E+005	5.385306E-006
I-132E	7.427384E+006	1.222262E+004	7.069892E-001	6.593710E+001	0.000000E+000	9.648799E-002	2.475899E+004	3.888353E-007
I-132O	2.297129E+005	3.807488E+002	2.210306E-002	2.061345E+000	0.000000E+000	2.998393E-003	7.657420E+002	1.212083E-008
I-132P	1.454848E+008	2.396480E+005	1.395580E+001	1.300155E+003	0.000000E+000	1.891201E+000	4.849700E+005	7.653502E-006
I-133E	1.043897E+007	1.717789E+004	9.93540E-001	9.266568E+001	0.000000E+000	1.356008E-001	3.479673E+004	5.463937E-007
I-133O	3.228547E+005	5.351110E+002	3.106170E-002	2.896942E+000	0.000000E+000	4.213836E-003	1.076187E+003	1.703227E-008
I-133P	2.044747E+008	3.368055E+005	1.961225E+001	1.827192E+003	0.000000E+000	2.657828E+000	6.815853E+005	1.075475E-005
I-134E	1.106952E+007	1.821742E+004	1.053887E+000	9.828372E+001	0.000000E+000	1.438219E-001	3.690246E+004	5.797032E-007
I-134O	4.233564E+005	5.674935E+002	3.294834E-002	3.072575E+000	0.000000E+000	4.469307E-003	1.141313E+003	1.807060E-008
I-134P	2.168257E+008	3.571874E+005	2.080347E+001	1.937969E+003	0.000000E+000	2.818963E+000	7.228317E+005	1.141038E-005
I-135E	9.720195E+006	1.599527E+004	9.251581E-001	8.628692E+001	0.000000E+000	1.262666E-001	3.240113E+004	5.087973E-007
I-135O	3.006246E+005	4.982710E+002	2.892382E-002	2.697528E+000	0.000000E+000	3.923771E-003	1.002097E+003	1.586031E-008
I-135P	1.903956E+008	3.136179E+005	1.826240E+001	1.701415E+003	0.000000E+000	2.474873E+000	6.346612E+005	1.001473E-005
Xe-133	2.120588E+008	3.514725E+005	2.040184E+001	1.902767E+003	0.000000E+000	2.767727E+000	0.000000E+000	1.118699E-005
Xe-135	8.389948E+007	1.390588E+005	8.072073E+000	7.528304E+002	0.000000E+000	1.095052E+000	0.000000E+000	4.426266E-006
Cs-134	3.203848E+007	5.277273E+004	3.072938E+000	2.862942E+002	0.000000E+000	4.164426E-001	0.000000E+000	1.685088E-006
Cs-136	9.398603E+006	1.548107E+004	9.014583E-001	8.398549E+001	0.000000E+000	1.221650E-001	0.000000E+000	4.943273E-007
Cs-137	1.641027E+007	2.703045E+004	1.573974E+000	1.466413E+002	0.000000E+000	2.133040E-001	0.000000E+000	8.631103E-007
Cs-138	1.869455E+008	3.079858E+005	1.794035E+001	1.671136E+003	0.000000E+000	2.430828E+000	0.000000E+000	9.841378E-006
Ba-139	1.904511E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.926238E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.980265E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.798875E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.707133E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.786008E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.701014E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397818E+008	0.000000E+000	0.000000E+000					

EAB 0.00001 0.00036 0.00002 0.00003 0.00003 ending at 600.0 Sec  
LPZ 0.00000 0.00007 0.00000 0.00001 0.00001  
ControlRoom 0.00000 0.00024 0.00001 0.00001 0.00001

Isotope	Core	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	5.977901E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Co-60	7.155278E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Br-82E	3.683370E+004	5.417179E+002	2.880271E+000	2.663548E+001	2.624405E-004	4.507036E-002	1.227794E+003	1.957120E-009
Br-82O	1.139187E+003	1.796829E+001	9.923671E-002	9.155675E-001	8.792563E-006	1.460455E-003	3.797299E+001	6.113814E-011
Br-82P	7.214849E+005	1.071203E+004	6.092579E+001	5.563954E+002	5.401249E-003	8.884173E-001	2.404956E+004	3.857270E-008
Br-83E	6.303579E+005	9.271098E+003	4.929739E+001	4.558636E+002	4.491823E-003	7.713745E-001	2.101277E+004	3.349972E-008
Br-83O	1.949560E+004	3.075139E+002	1.698490E+000	1.566985E+001	1.504899E-004	2.499553E-002	6.498795E+002	1.046492E-009
Br-83P	1.234722E+007	1.833284E+005	1.042778E+003	9.522653E+003	9.244556E-002	1.520517E+001	4.115904E+005	6.602429E-007
Br-84E	9.046616E+005	1.330735E+004	7.077954E+001	6.544215E+002	6.449278E-003	1.107356E+000	3.016087E+004	4.811166E-008
Br-84O	2.797922E+004	4.413927E+002	2.438635E+000	2.249508E+001	2.160706E-004	3.588263E-002	9.328102E+002	1.502952E-009
Br-84P	1.772017E+007	2.631420E+005	1.497186E+003	1.367038E+004	1.327317E-001	2.182796E+001	5.907798E+005	9.482281E-007
Kr-85	1.517078E+006	2.392866E+004	1.321544E+002	1.219273E+003	1.170913E-002	1.944906E+000	0.000000E+000	3.694436E-007
Kr-85m	3.453326E+007	5.447002E+005	3.008428E+003	2.775553E+004	2.665529E-001	4.427383E+001	0.000000E+000	8.410705E-006
Kr-87	5.808007E+007	9.161586E+005	5.060577E+003	4.668598E+004	4.483793E-001	7.447042E+001	0.000000E+000	1.415011E-005
Kr-88	8.325682E+007	1.313243E+006	7.253339E+003	6.691794E+004	6.426613E-001	1.067432E+002	0.000000E+000	2.027898E-005
Rb-86	2.883122E+005	4.280617E+003	2.434634E+001	2.223397E+002	2.158373E-003	3.550181E-001	0.000000E+000	1.541382E-008
Sr-89	1.092720E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.388722E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.398604E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.268390E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391822E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.421142E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.657801E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.778758E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827623E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.004733E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.718942E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766669E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.252097E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694761E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.202293E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171993E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.721792E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.526774E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.240563E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.680038E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	3.177941E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.779561E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.588070E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.525319E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.957155E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.503268E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.224477E+006	7.683686E+004	4.085336E+002	3.777948E+003	3.722419E-002	6.392732E+000	1.741493E+005	2.775940E-007
I-131O	1.615818E+005	2.548609E+003	1.407560E+001	1.298631E+002	1.247125E-003	2.071494E-001	5.386061E+003	8.671711E-009
I-131P	1.023351E+008	1.519386E+006	8.641631E+003	7.891853E+004	7.661057E-001	1.260122E+002	3.411172E+006	5.471074E-006
I-132E	7.096289E+006	1.043701E+005	5.549716E+002	5.131932E+003	5.056728E-002	8.683829E+000	2.365530E+005	3.771290E-007
I-132O	2.194728E+005	3.461862E+003	1.912097E+001	1.764050E+002	1.694159E-003	2.813898E-001	7.316070E+003	1.178107E-008
I-132P	1.389995E+008	2.063834E+006	1.173920E+004	1.072023E+005	1.040718E+002	1.711738E+002	4.633511E+006	7.432800E-006
I-133E	1.038692E+007	1.527620E+005	8.122264E+002	7.511098E+003	7.400733E-002	1.270966E+001	3.462322E+005	5.519034E-007
I-133O	3.212449E+005	5.066976E+003	2.798441E+001	2.581864E+002	2.479473E-003	4.118424E-001	1.070821E+004	1.724081E-008
I-133P	2.034551E+008	3.020744E+006	1.718086E+004	1.569013E+005	1.523134E+002	2.505301E+002	6.781868E+006	1.087741E-005
I-134E	9.831547E+006	1.446093E+005	7.690412E+002	7.110997E+003	7.007299E-002	1.203263E+001	3.277542E+005	5.226713E-007
I-134O	3.040685E+005	4.796558E+003	2.649651E+001	2.444333E+002	2.347661E-002	3.899039E-001	1.013673E+004	1.632764E-008
I-134P	1.925767E+008	2.859530E+006	1.626738E+004	1.485435E+005	1.442162E+002	2.371846E+002	6.419928E+006	1.030128E-005
I-135E	9.567581E+006	1.407133E+005	7.481792E+002	6.918750E+003	6.817161E-002	1.170734E+001	3.189240E+005	5.083940E-007
I-135O	2.959046E+005	4.667331E+003	2.577773E+001	2.378250E+002	2.283958E-003	3.793632E-001	9.863630E+003	1.588163E-008
I-135P	1.874062E+008	2.782490E+006	1.582609E+004	1.445276E+005	1.403030E+002	2.307725E+002	6.246966E+006	1.001989E-005
Xe-133	2.118836E+008	3.342014E+006	1.845747E+004	1.702908E+005	1.635367E+000	2.716370E+002	0.000000E+000	5.159880E-005
Xe-135	8.294634E+007	1.308315E+006	7.225783E+003	6.666526E+004	6.402187E-001	1.063401E+002	0.000000E+000	2.020606E-005
Cs-134	3.203829E+007	4.756775E+005	2.705452E+003	2.470719E+004	2.398461E-001	3.945089E+001	0.000000E+000	1.712838E-006
Cs-136	9.395509E+006	1.394966E+005	7.933980E+002	7.245602E+003	7.033704E-002	1.156932E+001	0.000000E+000	5.023053E-007
Cs-137	1.641026E+007	2.436457E+005	1.385753E+003	1.265521E+004	1.228510E-001	2.020705E+001	0.000000E+000	8.773286E-007
Cs-138	1.540197E+008	2.287165E+006	1.301311E+004	1.188193E+005	1.153665E+000	1.897228E+002	0.000000E+000	8.241689E-006
Ba-139	1.767819E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925583E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.975159E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.751552E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.595682E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785770E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.695683E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397797E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.666123E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.444627E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.160944E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.562568E+009	0.000000E+000	0.00					

Br-83E	6.065454E+005	1.458542E+004	2.255933E+002	1.186230E+003	2.120219E-001	2.256974E+000	3.639398E+004	1.101425E-007
Br-83O	1.875913E+004	5.100177E+002	8.452860E+000	4.419087E+001	6.664237E-003	7.576173E-002	1.125587E+003	3.453756E-009
Br-83P	1.188079E+007	2.904419E+005	5.062493E+003	2.599638E+004	4.843499E-001	4.469809E+001	7.128718E+005	8.001945E-007
Br-84E	7.598981E+005	1.827563E+004	2.827509E+002	1.486572E+003	2.657072E-001	2.828404E+000	4.560192E+004	1.380896E-007
Br-84O	2.350200E+004	6.390557E+002	1.059453E+001	5.537959E+001	8.351681E-003	9.494342E-002	1.410369E+003	4.330106E-009
Br-84P	1.488460E+007	3.639257E+005	6.345155E+003	3.257843E+004	6.070784E-001	5.601494E+001	8.932334E+005	1.003263E-006
Kr-85	1.517076E+006	4.124416E+004	6.835112E+002	3.573483E+003	6.527621E-002	6.126461E+000	0.000000E+000	3.005821E-006
Kr-85m	3.382816E+007	9.196927E+005	1.524210E+004	7.968594E+004	1.455644E+000	1.366153E+002	0.000000E+000	6.703336E-005
Kr-87	5.400363E+007	1.468287E+006	2.433664E+004	1.272255E+005	2.324203E+000	2.181177E+002	0.000000E+000	1.070482E-004
Kr-88	8.059108E+007	2.191072E+006	3.631363E+004	1.898459E+005	3.468013E+000	3.254757E+002	0.000000E+000	1.597101E-004
Rb-86	2.882527E+005	7.046445E+003	1.228118E+002	6.306753E+002	1.174986E-002	1.084382E+000	0.000000E+000	1.941027E-008
Sr-89	1.092637E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232040E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.375277E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.351711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.266562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391731E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.384520E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.642848E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821786E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.768999E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827421E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	2.001925E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.692711E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766496E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.226304E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694681E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.199158E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171984E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.713050E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.453468E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.228426E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679979E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.934571E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.778669E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.583547E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.523519E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	6.294506E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.317338E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.221975E+006	1.255663E+005	1.941984E+003	1.021187E+004	1.825223E+000	1.942959E+001	3.133170E+005	9.480657E-007
I-131O	1.615044E+005	4.390758E+003	7.276511E+001	3.804250E+002	5.377004E-002	6.522093E-001	9.690215E+003	2.972864E-008
I-131P	1.022861E+008	2.500423E+006	4.357967E+004	2.237945E+005	4.169429E+000	3.847920E+002	6.137136E+006	6.887721E-006
I-132E	6.814393E+005	1.638641E+005	2.534503E+003	1.332707E+004	2.382027E+000	2.535667E+001	4.088786E+005	1.237438E-006
I-132O	2.107544E+005	5.729939E+003	9.496648E+001	4.964761E+002	7.487174E-002	8.511686E-001	1.264573E+004	3.880255E-008
I-132P	1.334778E+008	3.263052E+006	5.687627E+004	2.920645E+005	5.441592E+000	5.021745E+002	8.008963E+006	8.99096E-006
I-133E	1.034087E+007	2.486551E+005	3.845682E+003	2.022233E+004	3.614447E+000	3.847596E+001	6.204516E+005	1.877456E-006
I-133O	3.198207E+005	8.694879E+003	1.440956E+002	7.533468E+002	1.136086E-001	1.291555E+000	1.918923E+004	5.887169E-008
I-133P	2.025531E+008	4.951509E+006	8.630016E+004	4.431751E+005	8.256660E+000	7.619946E+002	1.215318E+007	1.363978E-005
I-134E	8.847852E+006	2.127766E+005	3.291488E+003	1.730633E+004	3.093283E+000	3.292772E+001	5.309265E+005	1.607253E-006
I-134O	2.736449E+005	7.440293E+003	1.233303E+002	6.447165E+002	9.722763E-002	1.105312E+000	1.642041E+004	5.039893E-008
I-134P	1.733084E+008	4.237054E+006	7.386360E+004	3.792706E+005	7.066902E+000	6.521148E+002	1.039959E+007	1.167700E-005
I-135E	9.433937E+006	2.268494E+005	3.508508E+003	1.844914E+004	3.297517E+000	3.510218E+001	5.660414E+005	1.712884E-006
I-135O	2.917712E+005	7.932386E+003	1.314619E+002	6.872895E+002	1.036469E-001	1.178304E+000	1.750643E+004	5.371118E-008
I-135P	1.847884E+008	4.517289E+006	7.873370E+004	4.043170E+005	7.532759E+000	6.951788E+002	1.108741E+007	1.244418E-005
Xe-133	2.117280E+008	5.756171E+006	9.539325E+004	4.987276E+005	9.110179E+000	8.550299E+002	0.000000E+000	4.195041E-004
Xe-135	8.210820E+007	2.232267E+006	3.699463E+004	1.934106E+005	3.533039E+000	3.315873E+002	0.000000E+000	1.626935E-004
Cs-134	3.203813E+007	7.831840E+005	1.365004E+004	7.009701E+004	1.305949E+000	1.205247E+002	0.000000E+000	2.157371E-006
Cs-136	9.392761E+006	2.296096E+005	4.001845E+003	2.055066E+004	3.828713E-001	3.533479E+001	0.000000E+000	6.324871E-007
Cs-137	1.641026E+007	4.011548E+005	6.991687E+003	3.590440E+004	6.689205E-001	6.173398E+001	0.000000E+000	1.105027E-006
Cs-138	1.296541E+008	3.170011E+006	5.526986E+004	2.837717E+005	5.287992E+000	4.879227E+002	0.000000E+000	8.738975E-006
Ba-139	1.654574E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ba-140	1.925002E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-140	1.970631E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-141	1.710533E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
La-142	1.502738E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-141	1.785559E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-143	1.690958E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ce-144	1.397778E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pr-143	1.665650E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nd-147	7.442017E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-238	6.149747E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Np-239	2.558381E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-238	7.409448E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Pu-241	2.170046E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Cm-242	8.480288E+006	0.000000E+000	0.					

Rb-86	2.881634E+005	1.032750E+004	4.615153E+002	1.459528E+003	2.523523E+000	0.000000E+000	0.000000E+000	1.962728E-006
Sr-89	1.092512E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-90	1.232039E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-91	1.355354E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sr-92	1.284303E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-90	1.263825E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-91	1.391593E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-92	1.331349E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Y-93	1.620671E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-95	1.821621E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Zr-97	1.754462E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Nb-95	1.827120E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Mo-99	1.997721E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Tc-99m	1.654113E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-103	1.766236E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-105	1.188607E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Ru-106	7.694562E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Rh-105	1.194471E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-125	2.171972E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-127	8.699954E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Sb-129	3.346357E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127	1.210442E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-127m	1.679890E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129	2.604012E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-129m	7.777332E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-131m	1.576786E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-132	1.520821E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-133m	5.416972E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
Te-134	1.080659E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000
I-131E	5.218225E+006	1.822092E+005	6.700228E+003	2.208362E+004	4.889048E+001	0.000000E+000	5.218167E+005	4.070670E-005
I-131O	1.613884E+005	6.860733E+003	2.835431E+002	9.224349E+002	1.713279E+000	0.000000E+000	1.613866E+004	1.398096E-006
I-131P	1.022127E+008	3.663204E+006	1.637014E+005	5.177004E+005	8.951037E+002	0.000000E+000	1.022115E+007	6.961880E-004
I-132E	6.412407E+006	2.239168E+005	8.234614E+003	2.713978E+004	6.008404E+001	0.000000E+000	6.412603E+005	5.003282E-005
I-132O	1.983218E+005	8.431151E+003	3.484759E+002	1.133632E+003	2.105537E+000	0.000000E+000	1.983279E+004	1.718407E-006
I-132P	1.256038E+008	4.501710E+006	2.011899E+005	6.362309E+005	1.100039E+003	0.000000E+000	1.256077E+007	8.556884E-004
I-133E	1.027218E+007	3.586839E+005	1.318970E+004	4.347241E+004	9.624267E+001	0.000000E+000	1.027211E+006	8.013359E-006
I-133O	3.176962E+005	1.350554E+004	5.581672E+002	1.815847E+003	3.372651E+000	0.000000E+000	3.176940E+004	2.752237E-006
I-133P	2.012076E+008	7.211119E+006	3.222534E+005	1.019112E+006	1.762044E+003	0.000000E+000	2.012062E+007	1.370488E-003
I-134E	7.553736E+006	2.637891E+005	9.702278E+003	3.197484E+004	7.078790E+001	0.000000E+000	7.554477E+005	5.895801E-005
I-134O	2.336207E+005	9.932464E+003	4.105853E+002	1.335593E+003	2.480635E+000	0.000000E+000	2.336436E+004	2.024949E-006
I-134P	1.479598E+008	5.303317E+006	2.370482E+005	7.495784E+005	1.296010E+003	0.000000E+000	1.479743E+007	1.008332E-003
I-135E	9.236963E+006	3.225395E+005	1.186082E+004	3.909214E+004	8.654523E+001	0.000000E+000	9.236990E+005	7.206146E-005
I-135O	2.856792E+005	1.214460E+004	5.019313E+002	1.632883E+003	3.032822E+000	0.000000E+000	2.856801E+004	2.474995E-006
I-135P	1.809302E+008	6.484458E+006	2.897861E+005	9.164268E+005	1.584500E+003	0.000000E+000	1.809307E+007	1.232434E-003
Xe-133	2.114949E+008	8.990799E+006	3.715755E+005	1.208825E+006	2.079489E+003	0.000000E+000	2.114949E+007	1.665611E-001
Xe-135	8.086684E+007	3.437740E+006	1.420793E+005	4.622140E+005	7.951257E+002	0.000000E+000	8.086684E+006	6.368916E-002
Cs-134	3.203789E+007	1.148207E+006	5.131105E+004	1.622696E+005	2.805641E+002	0.000000E+000	3.203789E+006	2.182150E-004
Cs-136	9.388639E+006	3.364798E+005	1.503661E+004	4.755282E+004	8.221880E+001	0.000000E+000	9.388639E+005	6.394758E-005
Cs-137	1.641025E+007	5.881273E+005	2.628223E+004	8.311674E+004	1.437088E+002	0.000000E+000	1.641025E+006	1.117727E-004
Cs-138	1.001385E+008	3.589511E+006	1.604674E+005	5.073854E+005	8.772569E+002	0.000000E+000	1.001385E+007	6.826729E-004
Ba-139	1.498162E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.498162E+007	0.000000E+000
Ba-140	1.924130E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.924130E+007	0.000000E+000
La-140	1.963859E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.963859E+007	0.000000E+000
La-141	1.650798E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.650798E+007	0.000000E+000
La-142	1.373373E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.373373E+007	0.000000E+000
Ce-141	1.785241E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.785241E+007	0.000000E+000
Ce-143	1.683895E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.683895E+007	0.000000E+000
Ce-144	1.397749E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.397749E+007	0.000000E+000
Pr-143	1.664941E+008	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.664941E+007	0.000000E+000
Nd-147	7.438103E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	7.438103E+006	0.000000E+000
Np-238	6.132990E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	6.132990E+006	0.000000E+000
Np-239	2.552114E+009	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	2.552114E+008	0.000000E+000
Pu-238	7.409446E+005	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	7.409446E+004	0.000000E+000
Pu-239	5.341060E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	5.341060E+003	0.000000E+000
Pu-240	8.089790E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	8.089790E+003	0.000000E+000
Pu-241	2.170044E+007	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	2.170044E+006	0.000000E+000
Am-241	2.787830E+004	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	2.787830E+003	0.000000E+000
Cm-242	8.479987E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	8.479987E+005	0.000000E+000
Cm-244	1.789994E+006	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	0.000000E+000	1.789994E+005	0.000000E+000

Time = 7200.000000 Seconds  
CPU ClockTime = 14.230000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window		
EAB	3.98782	22.29018	1.56916	5.55698	5.55698	ending at	7200.0 Sec
LPZ	0.83080	4.64379	0.32691	1.15770			
ControlRoom	0.05398	4.67968	0.30740	0.36139			
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	7.886535E+002	4.859043E+001	9.702808E+001	4.806668E-001	0.000000E+000	0.000000E+000	1.102901E-006
Co-60	9.446629E+002	5.820246E+001	1.162219E+002	5.757510E-001	0.000000E+000	0.000000E+000	1.321074E-006
Br-82E	3.598755E+003	9.553642E+001	3.291438E+002	3.346438E+000	0.000000E+000	2.131790E+004	1.318232E-005
Br-82O	1.907181E+002	7.721728E+001	6.139652E+001	1.548708E-001	0.000000E+000	6.593166E+002	5.620201E-007
Br-82P	9.774532E+004	6.233772E+003	1.233934E+004	6.781756E+001	0.000000E+000	4.175672E+005	1.764614E-004
Br-83E	3.760012E+004	9.982627E+002	3.439105E+003	3.496524E+001	0.000000E+000	2.227314E+005	1.377508E-004
Br-83O	1.992640E+003	8.069363E+002	6.415913E+002	1.618182E+000	0.000000E+000	6.888601E+003	5.877956E-006
Br-83P	1.021255E+006	6.513813E+004	1.289319E+005	7.085922E+002	0.000000E+000	4.362781E+006	1.843965E-005
Br-84E	8.33058E+003	2.213132E+002	7.623358E+002	7.750229E+000	0.000000E+000	4.936245E+004	3.054616E-005
Br-84O	4.416152E+002	1.789725E+002	1.422878E+002	3.586920E-001	0.000000E+000	1.526674E+003	1.203354E-006
Br-84P	2.263331E+005	1.444208E+004	2.858208E+004	1.570640E+002	0.000000E+000	6.568932E+005	4.088999E-004
Kr-85	9.341581E+005	3.198842E+005	2.615497E+005	5.909579E+002	0.000000E+000	0.000000E+000	1.861724E+001
Kr-85m	1.601312E+007	5.483958E+006	4.483834E+006	1.013034E+004	0.000000E+000	0.000000E+000	3.191609E-001
Kr-87	1.314985E+007	4.504577E+006	3.682938E+006	8.319520E+003	0.000000E+000	0.000000E+000	2.621517E+000
Kr-88	3.277374E+007	1.122459E+007	9.717459E+006	2.073389E+004	0.000000E+000	0.000000E+000	6.532542E+000
Rb-86	3.278522E+004	2.107306E+003	4.163140E+003	2.338720E+001	0.000000E+000	0.000000E+000	6.272565E-005
Sr-89	1.152938E+006	7.103470E+004	1.418460E+005	7.026901E+002	0.000000E+000	0.000000E+000	1.612339E-003
Sr-90	1.301293E+005	8.017510E+003	1.600981E+004	7.931089E+001	0.000000E+000	0.000000E+000	1.819807E-004
Sr-91	1.283153E+006	7.905976E+004	1.578694E+005	7.820615E+002	0.000000E+000	0.000000E+000	1.794513E-003
Sr-92	9.243012E+005	5.695373E+004	1.137244E+005	5.633621E+002	0.000000E+000	0.000000E+000	1.292785E-003
Y-90	1.313389E+003	8.092070E+001	1.615867E+002	8.004825E-001	0.000000E+000	0.000000E+000	1.836734E-006
Y-91	1.468734E+004	9.049145E+002	1.806984E+003	8.951604E+000	0.000000E+000	0.000000E+000	2.053967E-005
Y-92	1.048337E+004	6.459506E+002	1.289836E+003	6.389565E+000	0.000000E+000	0.000000E+000	1.466220E-005
Y-93	1.545902E+004	9.524853E+002	1.901958E+003	9.422024E+000	0.000000E+000	0.000000E+000	2.161967E-005
Zr-95	1.922722E+004	1.184625E+003	2.365526E+003	1.171856E+001	0.000000E+000	0.000000E+000	2.688852E-005

Zr-97	1.741891E+004	1.073230E+003	2.143073E+003	1.061650E+001	0.000000E+000	0.000000E+000	2.436023E-005
Nb-95	1.927442E+004	1.187534E+003	2.371333E+003	1.174733E+001	0.000000E+000	0.000000E+000	2.695453E-005
Mo-99	2.596272E+005	1.599619E+004	3.194203E+004	1.582373E+002	0.000000E+000	0.000000E+000	3.630807E-004
Tc-99m	1.836970E+005	1.131844E+004	2.260093E+004	1.119611E+002	0.000000E+000	0.000000E+000	2.569097E-004
Ru-103	2.329335E+005	1.435147E+004	2.865782E+004	1.419678E+002	0.000000E+000	0.000000E+000	3.257485E-004
Ru-105	1.241683E+005	7.650715E+003	1.527705E+004	7.567951E+001	0.000000E+000	0.000000E+000	1.736597E-004
Rh-106	1.015777E+005	6.258354E+003	1.249703E+004	6.190896E+001	0.000000E+000	0.000000E+000	1.420516E-004
Rh-105	1.531382E+005	9.435209E+003	1.884070E+004	9.333462E+001	0.000000E+000	0.000000E+000	2.141602E-004
Sb-125	5.734926E+004	3.533396E+003	7.055681E+003	3.495309E+001	0.000000E+000	0.000000E+000	8.020069E-005
Sb-127	2.271486E+006	1.399510E+005	2.794616E+005	1.384422E+003	0.000000E+000	0.000000E+000	3.176598E-003
Sb-129	6.976703E+005	4.298747E+004	8.583793E+004	4.252243E+002	0.000000E+000	0.000000E+000	9.757509E-004
Te-127	2.861568E+005	1.763117E+004	3.520656E+004	1.744081E+002	0.000000E+000	0.000000E+000	4.001956E-004
Te-127m	4.434048E+004	2.731901E+003	5.455211E+003	2.702454E+001	0.000000E+000	0.000000E+000	6.200844E-005
Te-129	2.806134E+005	1.729323E+004	3.452925E+004	1.710426E+002	0.000000E+000	0.000000E+000	3.925586E-004
Te-129m	2.050988E+005	1.263652E+004	2.523331E+004	1.250031E+002	0.000000E+000	0.000000E+000	2.868227E-004
Te-131m	4.032085E+005	2.484264E+004	4.960703E+004	2.457474E+002	0.000000E+000	0.000000E+000	5.638780E-004
Te-132	3.962778E+006	2.441551E+005	4.875419E+005	2.452228E+003	0.000000E+000	0.000000E+000	5.541818E-003
Te-133m	4.639341E+005	2.859239E+004	5.708901E+004	2.827886E+002	0.000000E+000	0.000000E+000	6.490674E-004
Te-134	6.462141E+005	3.983015E+004	7.952429E+004	3.939102E+002	0.000000E+000	0.000000E+000	9.042082E-004
I-131E	5.256795E+005	1.395518E+004	4.807875E+004	4.888219E+002	0.000000E+000	3.113962E+006	1.925559E-003
I-131O	2.785869E+004	1.127920E+004	8.968256E+003	2.262232E+001	0.000000E+000	9.630810E+004	8.209498E-005
I-131P	1.427792E+007	9.105775E+005	1.802433E+006	9.906265E+003	0.000000E+000	6.099513E+007	2.577595E-002
I-132E	4.116532E+005	1.092922E+004	3.765207E+004	3.828068E+002	0.000000E+000	2.438505E+006	1.508134E-003
I-132O	2.181580E+004	8.834589E+003	7.024332E+003	1.771621E+001	0.000000E+000	7.541769E+004	6.429879E-005
I-132P	1.118086E+007	7.131488E+005	1.411576E+006	7.757817E+003	0.000000E+000	4.776454E+007	2.018825E-002
I-133E	9.896777E+005	2.627317E+004	9.051663E+004	9.202910E+002	0.000000E+000	5.862543E+006	3.625239E-003
I-133O	5.244854E+004	2.123540E+004	1.688454E+004	4.259044E+001	0.000000E+000	1.813158E+005	1.545599E-004
I-133P	2.688051E+007	1.714332E+006	3.393401E+006	1.865025E+004	0.000000E+000	1.148333E+008	4.852828E-002
I-134E	2.337100E+005	6.205909E+003	2.137842E+004	2.173479E+002	0.000000E+000	1.384425E+006	8.564538E-004
I-134O	1.238560E+004	5.017538E+003	3.989250E+003	1.005899E+001	0.000000E+000	4.281728E+004	3.651500E-005
I-134P	6.347767E+006	4.049595E+005	8.015058E+005	4.404701E+003	0.000000E+000	2.711761E+007	1.146472E-002
I-135E	7.986295E+005	2.120189E+004	7.304425E+004	7.426450E+002	0.000000E+000	4.730833E+006	2.925538E-003
I-135O	4.232383E+004	1.713703E+004	1.362579E+004	3.36919E+001	0.000000E+000	1.463144E+005	1.247288E-004
I-135P	2.169148E+007	1.383436E+006	2.738389E+006	1.505015E+004	0.000000E+000	9.266580E+007	3.916192E-002
Xe-133	1.291606E+008	4.422871E+007	3.616309E+007	8.170841E+004	0.000000E+000	0.000000E+000	2.574106E+001
Xe-135	4.441945E+007	1.521136E+007	1.243731E+007	2.810057E+004	0.000000E+000	0.000000E+000	8.852931E+000
Cs-134	3.653314E+006	2.348206E+005	4.639056E+005	2.606076E+003	0.000000E+000	0.000000E+000	6.939476E-003
Cs-136	1.067139E+006	6.859158E+004	1.355077E+005	7.612396E+002	0.000000E+000	0.000000E+000	2.027036E-003
Cs-137	1.871378E+006	1.202848E+005	2.376316E+005	1.334939E+003	0.000000E+000	0.000000E+000	3.554686E-003
Cs-138	1.645656E+006	1.058318E+005	2.090415E+005	1.174145E+003	0.000000E+000	0.000000E+000	3.128201E-003
Ba-139	7.514233E+005	4.630574E+004	9.245961E+004	4.580090E+002	0.000000E+000	0.000000E+000	1.051129E-003
Ba-140	2.025402E+006	1.247889E+005	2.491854E+005	1.234438E+003	0.000000E+000	0.000000E+000	2.832448E-003
La-140	2.021395E+004	1.245428E+003	2.486935E+003	1.231999E+001	0.000000E+000	0.000000E+000	2.826870E-005
La-141	1.335599E+004	8.229460E+002	1.643264E+003	8.140392E+000	0.000000E+000	0.000000E+000	1.867970E-005
La-142	7.385106E+003	4.550917E+002	9.086965E+002	4.501354E+000	0.000000E+000	0.000000E+000	1.033039E-005
Ce-141	4.707717E+004	2.900514E+003	5.791907E+003	2.869249E+001	0.000000E+000	0.000000E+000	6.583561E-005
Ce-143	4.308984E+004	2.654868E+003	5.301373E+003	2.626238E+001	0.000000E+000	0.000000E+000	6.026016E-005
Ce-144	3.690247E+004	2.273631E+003	4.540113E+003	2.249124E+001	0.000000E+000	0.000000E+000	5.160667E-005
Pr-143	1.752931E+004	1.080015E+003	2.156633E+003	1.068373E+001	0.000000E+000	0.000000E+000	2.451408E-005
Nd-147	7.825301E+003	4.821320E+002	9.627478E+002	4.769349E+000	0.000000E+000	0.000000E+000	1.094339E-005
Np-238	1.586639E+004	9.775634E+002	1.952049E+003	9.670230E+000	0.000000E+000	0.000000E+000	2.218869E-005
Np-239	6.616129E+005	4.076342E+004	8.139852E+004	4.032391E+002	0.000000E+000	0.000000E+000	9.252462E-004
Pu-238	1.956489E+002	1.205430E+001	2.407069E+001	1.192437E-001	0.000000E+000	0.000000E+000	2.736074E-007
Pu-239	1.410327E+001	8.689288E-001	1.735126E+000	8.595627E-003	0.000000E+000	0.000000E+000	1.972287E-008
Pu-240	2.136139E+001	1.316116E+000	2.628093E+000	1.301929E-002	0.000000E+000	0.000000E+000	2.987307E-008
Pu-241	5.730034E+003	3.530382E+002	7.049663E+002	3.492328E+000	0.000000E+000	0.000000E+000	8.013228E-006
Am-241	2.944546E+000	1.814190E-001	3.622676E-001	1.794635E-003	0.000000E+000	0.000000E+000	4.117833E-009
Cm-242	8.954305E+002	5.516916E+001	1.101649E+002	5.457450E-001	0.000000E+000	0.000000E+000	1.252225E-006
Cm-244	1.890606E+002	1.164838E+001	2.326013E+001	1.152282E-001	0.000000E+000	0.000000E+000	2.643938E-007

Time = 7201.000000 Seconds  
CPU ClockTime = 14.280000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	0.83095	22.29816	1.56974	5.55910	5.55910 ending at	7201.0 Sec
ControlRoom		0.05401	4.68184	0.30755	1.15792		0.36156
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	2.877822E+002	5.023643E+001	5.968815E+002	4.808375E-001	0.000000E+000	0.000000E+000	1.103298E-006
Co-60	3.447105E+002	6.017407E+001	7.149551E+002	5.759555E-001	0.000000E+000	0.000000E+000	1.321550E-006
Br-82E	1.276088E+003	1.030108E+002	2.646701E+003	3.347214E+000	0.000000E+000	2.131779E+004	3.186298E-005
Br-82O	8.194481E+001	7.763456E+001	1.699596E+002	1.549270E-001	0.000000E+000	6.593130E+002	5.622103E-007
Br-82P	3.576937E+004	6.437544E+003	7.418832E+004	6.783662E+001	0.000000E+000	4.175649E+005	1.765083E-004
Br-83E	1.333175E+004	1.076278E+003	2.765103E+004	3.497072E+001	0.000000E+000	2.227136E+005	1.377820E-004
Br-83O	8.561403E+002	8.112356E+002	1.775698E+003	1.618649E+000	0.000000E+000	6.888049E+003	5.874504E-006
Br-83P	3.736968E+005	6.726221E+004	7.750748E+005	7.087384E+002	0.000000E+000	4.362431E+006	1.844317E-003
Br-84E	2.953837E+003	2.385382E+002	6.126476E+003	7.749252E+000	0.000000E+000	4.934452E+004	3.054442E-005
Br-84O	1.897181E+002	1.798746E+002	3.934895E+002	3.586939E-001	0.000000E+000	1.526119E+003	1.302328E-006
Br-84P	8.279895E+004	1.490867E+004	1.717312E+005	1.570520E+002	0.000000E+000	9.665420E+005	4.088621E-004
Kr-85	3.886326E+005	3.219296E+005	8.060527E+005	5.912126E+002	0.000000E+000	0.000000E+000	1.862473E-001
Kr-85m	6.661696E+006	5.518782E+006	1.381685E+007	1.013427E+004	0.000000E+000	0.000000E+000	3.192757E-003
Kr-87	5.470214E+006	4.532684E+006	1.134563E+007	8.321845E+003	0.000000E+000	0.000000E+000	2.622175E+000
Kr-88	1.363418E+007	1.129559E+007	2.827831E+007	2.074142E+004	0.000000E+000	0.000000E+000	6.534730E+000
Rb-86	1.200555E+004	2.175650E+003	2.490040E+004	2.339358E+001	0.000000E+000	0.000000E+000	6.229155E-005
Sr-89	4.207107E+005	7.344099E+004	8.725852E+005	7.029396E+002	0.000000E+000	0.000000E+000	1.612919E-003
Sr-90	4.748459E+004	8.289103E+003	9.848656E+004	7.933907E+001	0.000000E+000	0.000000E+000	1.820462E-004
Sr-91	4.682181E+005	8.173620E+004	9.711190E+005	7.823234E+002	0.000000E+000	0.000000E+000	1.795122E-003
Sr-92	3.372590E+005	5.887873E+004	6.995001E+005	5.635221E+002	0.000000E+000	0.000000E+000	1.293158E-003
Y-90	4.792585E+002	8.366163E+001	9.940176E+002	8.007644E-001	0.000000E+000	0.000000E+000	1.837389E-006
Y-91	5.359455E+003	9.355684E+002	1.111591E+004	8.954783E+000	0.000000E+000	0.000000E+000	2.054706E-005
Y-92	3.825229E+003	6.677947E+002	7.933809E+003	6.391487E+000	0.000000E+000	0.000000E+000	1.466668E-005
Y-93	5.640952E+003	9.847316E+002	1.169975E+004	9.425194E+000	0.000000E+000	0.000000E+000	2.162704E-005
Zr-95	7.016074E+003	1.224755E+003	1.455186E+004	1.172273E+001	0.000000E+000	0.000000E+000	2.689820E-005
Zr-97	6.356152E+003	1.109572E+003	1.318313E+004	1.062015E+001	0.000000E+000	0.000000E+000	2.436872E-005
Nb-95	7.033295E+003	1.227761E+003	1.458758E+004	1.175150E+001	0.000000E+000	0.000000E+000	2.696422E-005
Mo-99	9.473856E+004	1.653801E+004	1.969448E+005	1.582930E+002	0.000000E+000	0.000000E+000	3.632103E-004
Tc-99m	6.702970E+004	1.170146E+004	1.390246E+005	1.119973E+002	0.000000E+000	0.000000E+000	2.569399E-004
Ru-103	8.499815E+004	1.483763E+004	1.762925E+005	1.420182E+002	0.000000E+000	0.000000E+000	2.586565E-004
Ru-105	4.530763E+004	7.909529E+003	9.397138E+004	7.570311E+001	0.000000E+000	0.000000E+000	1.737146E-004
Ru-106	3.760580E+004	6.470356E+003	7.687721E+004	6.193095E+001	0.000000E+000	0.000000E+000	1.421027E-004
Rh-105	5.588036E+004	9.754772E+003	1.159000E+005	9.36927E+001	0.000000E+000	0.000000E+000	2.142361E-004
Sb-125	2.092693E+004	3.653089E+003	4.340400E+004	3.496551E+001	0.000000E+000	0.000000E+000	8.022955E-005
Sb-127	8.288710E+005	1.446515E+005	1.719140E+006	1.384911E+003	0.000000E+000	0.000000E+000	3.177734E-003

Sb-129	2.545721E+005	4.444167E+004	5.280014E+005	4.253567E+002	0.000000E+000	0.000000E+000	9.760594E-004
Te-127	1.044176E+005	1.822805E+004	2.165699E+005	1.744664E+002	0.000000E+000	0.000000E+000	4.003315E-004
Te-127m	1.617998E+004	2.824444E+003	3.355848E+004	2.703413E+001	0.000000E+000	0.000000E+000	6.203075E-005
Te-129	1.023815E+005	1.787598E+004	2.123467E+005	1.710749E+002	0.000000E+000	0.000000E+000	3.926347E-004
Te-129m	7.484117E+004	1.306458E+004	1.552261E+005	1.250475E+002	0.000000E+000	0.000000E+000	2.869259E-004
Te-131m	1.471313E+005	2.568403E+004	3.051612E+005	2.458332E+002	0.000000E+000	0.000000E+000	5.640776E-004
Te-132	1.446027E+006	2.524252E+005	2.999168E+006	2.416080E+003	0.000000E+000	0.000000E+000	5.543798E-003
Te-133m	1.692594E+005	2.955460E+004	3.510565E+005	2.828300E+002	0.000000E+000	0.000000E+000	6.491656E-004
Te-134	2.357474E+005	4.116773E+004	4.889576E+005	3.939418E+002	0.000000E+000	0.000000E+000	9.042848E-004
I-131E	1.864023E+005	1.504705E+004	3.866121E+005	4.889373E+002	0.000000E+000	3.113959E+006	1.926147E-003
I-131O	1.196992E+004	1.134020E+004	2.482649E+004	2.263063E+001	0.000000E+000	9.630800E+004	8.212313E-005
I-131P	5.224946E+006	9.403471E+005	1.083693E+007	9.909094E+003	0.000000E+000	6.099507E+007	2.578291E-002
I-132E	1.459579E+005	1.178330E+004	3.027274E+005	3.828652E+002	0.000000E+000	2.438300E+006	1.508469E-003
I-132O	9.373167E+003	8.881622E+003	1.944064E+004	1.772124E+001	0.000000E+000	7.541132E+004	6.431547E-005
I-132P	4.091287E+006	7.364006E+005	8.485632E+006	7.759385E+003	0.000000E+000	4.776050E+007	2.019201E-002
I-133E	3.509300E+005	2.832856E+004	7.278549E+005	9.205008E+002	0.000000E+000	5.862489E+006	3.626316E-003
I-133O	2.253525E+004	2.135008E+004	4.673977E+004	4.260573E+001	0.000000E+000	1.813141E+005	1.546116E-004
I-133P	9.367444E+006	1.770364E+006	2.040214E+007	1.865542E+004	0.000000E+000	1.148322E+008	4.854096E-002
I-134E	8.285487E+004	6.689929E+003	1.718471E+005	2.173517E+002	0.000000E+000	1.384121E+006	8.565280E-004
I-134O	5.321177E+003	5.043561E+003	1.103651E+004	1.006049E+001	0.000000E+000	4.280787E+004	3.651954E-005
I-134P	2.322487E+006	4.181047E+005	4.817011E+006	4.404996E+003	0.000000E+000	2.711165E+007	1.146531E-002
I-135E	2.831809E+005	2.286006E+004	5.873382E+005	7.427994E+002	0.000000E+000	4.730695E+006	2.926349E-003
I-135O	1.818487E+004	1.722922E+004	3.771677E+004	3.438085E+001	0.000000E+000	1.463101E+005	1.247680E-004
I-135P	9.377099E+006	1.428623E+006	1.646340E+007	1.505402E+004	0.000000E+000	9.266309E+007	3.917138E-002
Xe-133	5.373394E+007	4.451144E+007	1.114482E+008	8.174350E+004	0.000000E+000	0.000000E+000	2.575139E+001
Xe-135	1.847937E+007	1.530830E+007	3.832757E+007	2.811208E+004	0.000000E+000	0.000000E+000	8.856310E+000
Cs-134	1.337799E+006	2.424363E+005	2.774695E+006	2.606787E+003	0.000000E+000	0.000000E+000	6.941251E-003
Cs-136	3.907733E+005	7.081610E+004	8.104929E+005	7.614469E+002	0.000000E+000	0.000000E+000	2.027553E-003
Cs-137	6.852759E+005	1.241859E+005	1.421313E+006	1.335304E+003	0.000000E+000	0.000000E+000	3.555595E-003
Cs-138	6.024266E+005	1.092238E+005	1.249477E+006	1.174044E+003	0.000000E+000	0.000000E+000	3.127878E-003
Ba-139	2.741628E+005	4.786755E+004	5.686340E+005	4.581085E+002	0.000000E+000	0.000000E+000	1.051363E-003
Ba-140	7.390751E+005	1.290161E+005	1.532896E+006	1.234875E+003	0.000000E+000	0.000000E+000	2.833466E-003
La-140	7.376105E+003	1.287611E+003	1.529859E+004	1.232430E+001	0.000000E+000	0.000000E+000	2.827873E-005
La-141	4.873429E+003	8.507800E+002	1.010785E+004	8.142881E+000	0.000000E+000	0.000000E+000	1.868550E-005
La-142	2.694547E+003	4.704474E+002	5.588689E+003	4.502390E+000	0.000000E+000	0.000000E+000	1.033282E-005
Ce-141	1.717861E+004	2.998768E+003	3.562970E+004	2.870268E+001	0.000000E+000	0.000000E+000	6.585929E-005
Ce-143	1.572354E+004	2.744785E+003	3.261178E+004	2.627155E+001	0.000000E+000	0.000000E+000	6.028149E-005
Ce-144	1.346583E+004	2.350650E+003	2.792913E+004	2.249922E+001	0.000000E+000	0.000000E+000	5.162524E-005
Pr-143	6.396497E+003	1.116599E+003	1.326681E+004	1.068752E+001	0.000000E+000	0.000000E+000	2.452289E-005
Nd-147	2.855476E+003	4.984639E+002	5.922468E+003	4.771039E+000	0.000000E+000	0.000000E+000	1.094732E-005
Np-238	5.789677E+003	1.010674E+003	1.200822E+004	9.673629E+000	0.000000E+000	0.000000E+000	2.219660E-005
Np-239	2.14239E+005	4.214413E+004	5.007311E+005	4.033809E+002	0.000000E+000	0.000000E+000	9.255760E-004
Pu-238	7.139292E+001	1.246264E+001	1.480742E+002	1.192860E-001	0.000000E+000	0.000000E+000	2.737058E-007
Pu-239	5.146327E+000	8.983638E-001	1.067386E+001	8.598681E-003	0.000000E+000	0.000000E+000	1.972997E-008
Pu-240	7.794840E+000	1.360699E+000	1.616708E+001	1.302392E-002	0.000000E+000	0.000000E+000	2.988382E-008
Pu-241	2.090908E+003	3.649973E+002	4.336697E+003	3.493569E+000	0.000000E+000	0.000000E+000	8.016112E-006
Am-241	1.074474E+000	1.875646E-001	2.228539E+000	1.795273E-003	0.000000E+000	0.000000E+000	4.119315E-009
Cm-242	3.267454E+002	5.703802E+001	6.776943E+002	5.459388E-001	0.000000E+000	0.000000E+000	1.252675E-006
Cm-244	6.898880E+001	1.204297E+001	1.430879E+002	1.152691E-001	0.000000E+000	0.000000E+000	2.644889E-007

Time = 10080.000000 Seconds  
CPU ClockTime = 18.840000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	1.25200	6.70146	0.47086	1.72286	10.96255 ending at	10080.0 Sec
	ControlRoom	0.14882	10.90171	0.72207	0.87089		
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.236436E+002	1.404510E+001	1.977198E+001	3.776404E-001	0.000000E+000	0.000000E+000	1.155842E-006
Co-60	1.481491E+002	1.682875E+001	2.369066E+001	4.524864E-001	0.000000E+000	0.000000E+000	1.384923E-006
Br-82E	6.279913E+002	4.712686E+000	1.196494E+001	2.931177E+000	0.000000E+000	2.098480E+004	1.699593E-005
Br-82O	8.060635E+001	1.462367E+002	9.749644E+001	1.693958E-001	0.000000E+000	6.490143E+002	7.979795E-007
Br-82P	1.513359E+004	1.721140E+003	2.422930E+003	5.041539E+001	0.000000E+000	4.110424E+005	1.642679E-004
Br-83E	5.290183E+003	3.970481E+001	1.008027E+002	2.469302E+001	0.000000E+000	1.767746E+005	1.431942E-005
Br-83O	6.790525E+002	1.232233E+003	8.215330E+002	1.427095E+000	0.000000E+000	5.467256E+003	6.723255E-006
Br-83P	1.274854E+005	1.450140E+004	2.041393E+004	4.247148E+002	0.000000E+000	3.462595E+006	1.383995E-003
Br-84E	5.188615E+002	3.896207E+000	9.890565E+000	2.222122E+000	0.000000E+000	1.733778E+004	1.405228E-005
Br-84O	6.661140E+001	1.209788E+002	8.065980E+001	1.400100E-001	0.000000E+000	5.362200E+002	6.598243E-007
Br-84P	1.250395E+004	1.423249E+003	2.003397E+003	4.166229E+001	0.000000E+000	3.396060E+005	1.358190E-004
Kr-85m	3.883233E+005	6.767565E+005	4.511977E+005	6.387419E+002	0.000000E+000	0.000000E+000	2.833960E-001
Kr-87	5.881864E+006	1.025177E+007	6.834950E+006	9.674960E+003	0.000000E+000	0.000000E+000	4.292778E+000
Kr-87	3.532741E+006	6.159352E+006	4.106540E+006	5.811349E+003	0.000000E+000	0.000000E+000	2.578809E+000
Kr-88	1.120800E+007	1.953638E+007	1.302511E+007	1.843612E+004	0.000000E+000	0.000000E+000	8.180331E+000
Rb-86	5.153399E+003	5.862488E+002	8.252913E+002	1.749725E+001	0.000000E+000	0.000000E+000	5.772820E-005
Sr-89	1.807318E+005	2.052994E+004	2.890101E+004	5.520028E+002	0.000000E+000	0.000000E+000	1.689513E-003
Sr-90	2.048040E+004	2.318218E+003	3.263470E+003	6.233155E+001	0.000000E+000	0.000000E+000	1.907779E-004
Sr-91	1.898264E+005	2.156403E+004	3.035660E+004	5.797858E+002	0.000000E+000	0.000000E+000	1.774600E-003
Sr-92	1.181351E+005	1.342156E+004	1.889387E+004	3.608283E+002	0.000000E+000	0.000000E+000	1.104501E-003
Y-90	2.042032E+002	2.319628E+001	3.265453E+001	6.236914E-001	0.000000E+000	0.000000E+000	1.908938E-006
Y-91	2.302495E+003	2.615482E+002	3.681944E+002	7.032430E+000	0.000000E+000	0.000000E+000	2.152413E-005
Y-92	1.405728E+003	1.597014E+002	2.248165E+002	4.293578E+000	0.000000E+000	0.000000E+000	1.314238E-005
Y-93	2.296149E+003	2.608385E+002	3.671936E+002	7.013109E+000	0.000000E+000	0.000000E+000	2.146558E-005
Zr-95	3.014304E+003	3.424050E+002	4.820204E+002	9.206482E+000	0.000000E+000	0.000000E+000	2.817824E-005
Zr-97	2.643103E+003	3.002468E+002	4.226712E+002	8.072780E+000	0.000000E+000	0.000000E+000	2.470874E-005
Nb-95	3.020798E+003	3.431426E+002	4.830589E+002	9.226315E+000	0.000000E+000	0.000000E+000	2.823895E-005
Mo-99	4.037622E+004	4.586500E+003	6.456639E+003	1.233198E+002	0.000000E+000	0.000000E+000	3.774460E-004
Tc-99m	2.627001E+004	2.984319E+003	4.201140E+003	8.023680E+001	0.000000E+000	0.000000E+000	2.455919E-004
Ru-103	3.650931E+004	4.147216E+003	5.838242E+003	1.115091E+002	0.000000E+000	0.000000E+000	3.412950E-003
Ru-105	1.718700E+004	1.952524E+003	2.748636E+003	5.249475E+001	0.000000E+000	0.000000E+000	1.606807E-004
Ru-106	1.592928E+004	1.809460E+003	2.547266E+003	4.865221E+001	0.000000E+000	0.000000E+000	1.489096E-004
Rh-105	2.364331E+004	2.685756E+003	3.780867E+003	7.221310E+001	0.000000E+000	0.000000E+000	2.210241E-004
Sb-125	8.993839E+003	1.021640E+003	1.438214E+003	2.746956E+001	0.000000E+000	0.000000E+000	8.407596E-005
Sb-127	3.540987E+005	4.022345E+004	5.662452E+004	1.081512E+003	0.000000E+000	0.000000E+000	3.310190E-003
Sb-129	9.645989E+004	1.095831E+004	1.562638E+004	2.946202E+002	0.000000E+000	0.000000E+000	9.018006E-004
Te-127	4.230704E+004	4.806025E+003	6.765646E+003	1.292182E+002	0.000000E+000	0.000000E+000	3.955093E-004
Te-127m	6.952414E+003	7.897480E+002	1.111767E+003	2.123451E+001	0.000000E+000	0.000000E+000	6.499238E-005
Te-129	2.728577E+004	3.100669E+003	4.364786E+003	8.344466E+001	0.000000E+000	0.000000E+000	2.551547E-004
Te-129m	3.214339E+004	3.651277E+003	5.140083E+003	9.817441E+001	0.000000E+000	0.000000E+000	3.004821E-004
Te-131m	6.216191E+004	7.061276E+003	9.940493E+003	1.898594E+002	0.000000E+000	0.000000E+000	5.811070E-004
Te-132	6.170909E+005	7.009781E+004	9.688011E+004	1.884761E+003	0.000000E+000	0.000000E+000	5.768700E-003
Te-133m	3.990917E+004	4.535599E+003	6.384657E+003	1.219055E+002	0.000000E+000	0.000000E+000	3.732296E-004
Te-134	4.589673E+004	5.216875E+003	7.343552E+003	1.401995E+002	0.000000E+000	0.000000E+000	4.292809E-004
I-131E	9.291771E+004	6.972798E+002	1.770313E+003	4.336938E+002	0.000000E+000	3.104895E+006	5.214683E-003

I-131O	1.192643E+004	2.163673E+004	1.442526E+004	2.506356E+001	0.000000E+000	9.602769E+004	1.180673E-004
I-131P	2.239153E+006	2.546558E+005	3.584915E+005	7.459405E+003	0.000000E+000	6.081754E+007	2.430474E-002
I-132E	5.721788E+004	4.294449E+002	1.090274E+003	2.670767E+002	0.000000E+000	1.911969E+006	1.548781E-003
I-132O	7.344553E+003	1.332776E+004	8.885724E+003	1.543532E+001	0.000000E+000	5.913306E+004	7.271846E-005
I-132P	1.378865E+006	1.568466E+005	2.207961E+005	4.593666E+003	0.000000E+000	3.745094E+007	1.496922E-002
I-133E	1.708200E+005	1.281907E+003	3.254602E+003	7.973110E+002	0.000000E+000	5.708075E+006	4.623098E-003
I-133O	2.192578E+004	3.977840E+004	2.652039E+004	4.607754E+001	0.000000E+000	1.765384E+005	2.170603E-004
I-133P	4.116489E+006	4.681715E+005	6.590667E+005	1.371352E+004	0.000000E+000	1.118077E+008	4.468287E-002
I-134E	2.200905E+004	1.652271E+002	4.194553E+002	1.027384E+002	0.000000E+000	7.354397E+005	5.959017E-004
I-134O	2.825308E+003	5.129043E+003	3.419621E+003	5.938070E+000	0.000000E+000	2.274556E+004	2.797965E-005
I-134P	5.303886E+005	6.035085E+004	8.495425E+004	1.767096E+003	0.000000E+000	1.440552E+007	5.759516E-003
I-135E	1.301109E+005	9.764431E+002	2.479048E+003	6.073051E+002	0.000000E+000	4.347747E+006	3.521480E-003
I-135O	1.670070E+004	3.030076E+004	2.020165E+004	3.509726E+001	0.000000E+000	1.344664E+005	1.653387E-004
I-135P	3.135468E+006	3.566158E+005	5.020221E+005	1.044549E+004	0.000000E+000	8.516205E+007	3.403561E-002
Xe-133	5.345672E+007	9.316081E+007	6.211089E+007	8.792749E+004	0.000000E+000	0.000000E+000	3.901159E+001
Xe-135	1.737396E+007	3.027994E+007	2.018786E+007	2.857767E+004	0.000000E+000	0.000000E+000	1.267960E+001
Cs-134	5.749463E+005	6.540562E+004	9.207472E+004	1.952105E+003	0.000000E+000	0.000000E+000	6.440524E-003
Cs-136	1.676534E+005	1.907220E+004	2.684887E+004	5.692309E+002	0.000000E+000	0.000000E+000	1.878040E+000
Cs-137	2.945196E+005	3.350441E+004	4.716581E+004	9.999774E+002	0.000000E+000	0.000000E+000	3.299196E-003
Cs-138	9.216568E+004	1.049343E+004	1.477080E+004	3.129823E+002	0.000000E+000	0.000000E+000	1.033156E-003
Ba-139	7.921512E+004	9.001175E+003	1.267097E+004	2.419601E+002	0.000000E+000	0.000000E+000	7.407158E-004
Ba-140	3.170673E+005	3.601678E+004	5.070260E+004	9.684075E+002	0.000000E+000	0.000000E+000	2.964003E-003
La-140	3.126791E+003	3.551865E+002	5.000131E+002	9.550067E+000	0.000000E+000	0.000000E+000	2.923005E-005
La-141	1.817004E+003	2.064231E+002	2.905885E+002	5.549744E+000	0.000000E+000	0.000000E+000	1.698730E-005
La-142	8.079982E+002	9.180970E+001	1.292411E+002	2.467990E+000	0.000000E+000	0.000000E+000	7.555149E-006
Ce-141	7.377834E+003	8.380733E+002	1.179797E+003	2.253386E+001	0.000000E+000	0.000000E+000	6.896930E-005
Ce-143	6.645553E+003	7.549006E+002	1.062710E+003	2.029733E+001	0.000000E+000	0.000000E+000	6.212448E-005
Ce-144	5.786920E+003	6.573556E+002	9.253921E+002	1.767478E+001	0.000000E+000	0.000000E+000	5.409713E-005
Pr-143	2.744433E+003	3.117497E+002	4.388655E+002	8.382226E+000	0.000000E+000	0.000000E+000	2.565546E-005
Nd-147	1.224657E+003	1.391131E+002	1.958364E+002	3.740428E+000	0.000000E+000	0.000000E+000	1.144832E-005
Np-238	2.461306E+003	2.795904E+002	3.935930E+002	7.517494E+000	0.000000E+000	0.000000E+000	2.300889E-005
Np-239	1.027473E+005	1.167150E+004	1.643054E+004	3.138180E+002	0.000000E+000	0.000000E+000	9.605062E-004
Pu-238	3.068347E+001	3.485437E+000	4.906623E+000	9.371542E-002	0.000000E+000	0.000000E+000	2.868343E-007
Pu-239	2.211806E+000	2.512464E-001	3.536920E-001	6.755440E-003	0.000000E+000	0.000000E+000	2.067634E-008
Pu-240	3.350093E+000	3.805482E-001	5.357166E-001	1.023207E-002	0.000000E+000	0.000000E+000	3.131724E-008
Pu-241	8.986334E+002	1.020788E+002	1.437013E+002	2.744664E+000	0.000000E+000	0.000000E+000	8.400580E-006
Am-241	4.617912E-001	5.245640E-002	7.384547E-002	1.410432E-003	0.000000E+000	0.000000E+000	4.316903E-009
Cm-242	1.404098E+002	1.594962E+001	2.245308E+001	4.288488E-001	0.000000E+000	0.000000E+000	1.312576E-006
Cm-244	2.965014E+001	3.368058E+000	4.741382E+000	9.055935E-002	0.000000E+000	0.000000E+000	2.771746E-007

Time = 10800.000000 Seconds  
CPU ClockTime = 20.000000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window ending at	
ControlRoom	LPZ	1.34867	7.11441	0.49862	1.84728	10800.0 Sec	
		0.17496	12.36710	0.81668	0.99164		
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.000960E+002	6.378435E+000	8.979121E+000	3.421555E-001	0.000000E+000	0.000000E+000	1.113997E-006
Co-60	1.199439E+002	7.643201E+000	1.075957E+001	4.100008E-001	0.000000E+000	0.000000E+000	1.334889E-006
Br-82E	5.259509E+002	9.536155E+000	7.077321E+000	2.793414E+000	0.000000E+000	2.090234E+004	1.750878E-005
Br-82O	8.027505E+001	1.456623E+002	9.710867E+001	1.714996E+001	0.000000E+000	6.464640E+002	8.488362E-007
Br-82P	1.220442E+004	7.786401E+002	1.096114E+003	4.527737E+001	0.000000E+000	4.094272E+005	1.555402E-004
Br-83E	4.198380E+003	7.613412E+001	5.650316E+001	2.229908E+001	0.000000E+000	1.668513E+005	1.397835E-004
Br-83O	6.408172E+002	1.163106E+003	7.754134E+002	1.369105E+000	0.000000E+000	5.160348E+003	6.776933E-006
Br-83P	9.742159E+004	6.216805E+003	8.751415E+003	3.614391E+002	0.000000E+000	3.268221E+006	1.241779E-003
Br-84E	3.358552E+002	6.094147E+000	4.522701E+000	1.784081E+000	0.000000E+000	1.334728E+004	1.118838E-005
Br-84O	5.127067E+001	9.315418E+001	6.210531E+001	1.095589E+001	0.000000E+000	4.128024E+002	5.424740E-007
Br-84P	7.793484E+003	4.977293E+002	7.006059E+002	2.891819E+001	0.000000E+000	2.614415E+005	9.939414E-005
Kr-85	3.882572E+005	6.767486E+005	4.511679E+005	6.465508E+002	0.000000E+000	0.000000E+000	3.041563E-001
Kr-85m	5.701549E+006	9.939554E+006	6.626430E+006	9.494912E+003	0.000000E+000	0.000000E+000	4.466884E+000
Kr-87	3.166811E+006	5.522856E+006	3.681978E+006	5.274219E+003	0.000000E+000	0.000000E+000	2.481540E+000
Kr-88	1.067200E+007	1.860621E+007	1.240429E+007	1.777266E+004	0.000000E+000	0.000000E+000	8.361370E+000
Rb-86	4.170996E+003	2.661781E+002	3.747071E+002	1.575468E+001	0.000000E+000	0.000000E+000	5.471153E-005
Sr-89	1.463071E+005	9.323153E+003	1.312449E+004	5.001176E+002	0.000000E+000	0.000000E+000	1.628294E-003
Sr-90	1.652273E+004	1.052880E+003	1.482171E+003	5.647916E+001	0.000000E+000	0.000000E+000	1.838860E-004
Sr-91	1.514606E+005	9.652101E+003	1.358749E+004	5.177387E+002	0.000000E+000	0.000000E+000	1.685715E-003
Sr-92	9.087478E+004	5.791994E+003	8.153425E+003	3.106455E+002	0.000000E+000	0.000000E+000	1.011512E-003
Y-90	1.649695E+002	1.051246E+001	1.479870E+001	5.639112E-001	0.000000E+000	0.000000E+000	1.836002E-006
Y-91	1.863959E+003	1.187774E+002	1.672066E+002	6.371520E+000	0.000000E+000	0.000000E+000	2.074453E-005
Y-92	1.094396E+003	6.974912E+001	9.181667E+001	3.741043E+000	0.000000E+000	0.000000E+000	1.218114E-005
Y-93	1.833910E+003	1.168687E+002	1.645190E+002	6.268860E+000	0.000000E+000	0.000000E+000	2.041085E-005
Zr-95	2.440217E+003	1.554983E+002	2.188998E+002	8.341325E+000	0.000000E+000	0.000000E+000	2.715787E-005
Zr-97	2.122321E+003	1.352453E+002	1.903885E+002	7.254708E+000	0.000000E+000	0.000000E+000	2.362043E-005
Nb-95	2.445290E+003	1.558217E+002	2.193550E+002	8.358667E+000	0.000000E+000	0.000000E+000	2.721434E-005
Mo-99	3.262069E+004	2.078710E+003	2.926262E+003	1.115065E+002	0.000000E+000	0.000000E+000	3.630469E-004
Tc-99m	2.078372E+004	1.324524E+003	1.864558E+003	7.104550E+001	0.000000E+000	0.000000E+000	2.313223E-004
Ru-103	2.955428E+004	1.883292E+003	2.651168E+003	1.010245E+002	0.000000E+000	0.000000E+000	3.289180E-004
Ru-105	1.348717E+004	8.595505E+002	1.210003E+003	4.610379E+001	0.000000E+000	0.000000E+000	1.501152E-004
Ru-106	1.289644E+004	8.218015E+002	1.156875E+003	4.408353E+001	0.000000E+000	0.000000E+000	1.435281E-004
Rh-105	1.906725E+004	1.215044E+003	1.710452E+003	6.517721E+001	0.000000E+000	0.000000E+000	2.122071E-004
Sb-125	7.281539E+003	4.640024E+002	6.531906E+002	2.489028E+001	0.000000E+000	0.000000E+000	8.103829E-005
Sb-127	2.862541E+005	1.824111E+004	2.567857E+004	9.784951E+002	0.000000E+000	0.000000E+000	3.185815E-003
Sb-129	7.567355E+004	4.822755E+003	6.789068E+003	2.586783E+002	0.000000E+000	0.000000E+000	8.422644E-004
Te-127	3.375113E+004	2.150853E+003	3.027807E+003	1.153717E+002	0.000000E+000	0.000000E+000	3.756409E-004
Te-127m	5.628507E+003	3.586661E+002	5.049054E+002	1.923976E+001	0.000000E+000	0.000000E+000	6.264124E-005
Te-129	1.960266E+004	1.249732E+003	1.759214E+003	6.701268E+001	0.000000E+000	0.000000E+000	2.182345E-004
Te-129m	2.601942E+004	1.658040E+003	2.334074E+003	8.894144E+001	0.000000E+000	0.000000E+000	2.895775E-004
Te-131m	5.011257E+004	3.193384E+003	4.495419E+003	1.712989E+002	0.000000E+000	0.000000E+000	5.577234E-004
Te-132	4.987239E+005	3.178047E+004	4.473833E+004	1.704776E+003	0.000000E+000	0.000000E+000	5.550465E-003
Te-133m	2.780662E+004	1.772975E+003	2.495742E+003	9.506031E+001	0.000000E+000	0.000000E+000	3.09541E-004
Te-134	3.048272E+004	1.943973E+003	2.736404E+003	1.042123E+002	0.000000E+000	0.000000E+000	3.394336E-004
I-131E	7.806935E+004	1.415483E+003	1.050510E+003	4.146387E+002	0.000000E+000	3.102633E+006	2.598887E-003
I-131O	1.191557E+004	2.162094E+004	1.441402E+0				

I-134P	3.666052E+005	2.340361E+004	3.294419E+004	1.360216E+003	0.000000E+000	1.229839E+007	4.674186E-003
I-135E	1.071141E+005	1.942214E+003	1.441425E+003	5.689076E+002	0.000000E+000	4.256924E+006	3.565971E-003
I-135O	1.634887E+004	2.966825E+004	1.977898E+004	3.492822E+001	0.000000E+000	1.316574E+005	1.728816E-004
I-135P	2.485531E+006	1.585873E+005	2.232466E+005	9.221220E+003	0.000000E+000	8.338305E+007	3.167853E-002
Xe-133	5.338762E+007	9.305736E+007	6.203855E+007	8.890459E+004	0.000000E+000	0.000000E+000	4.182338E+001
Xe-135	1.710801E+007	2.982222E+007	1.988162E+007	2.848984E+004	0.000000E+000	0.000000E+000	1.340275E+001
Cs-134	4.654837E+005	2.970547E+004	4.181732E+004	1.758224E+003	0.000000E+000	0.000000E+000	6.105809E-003
Cs-136	1.356758E+005	8.658347E+003	1.218862E+004	5.124744E+002	0.000000E+000	0.000000E+000	1.779678E-003
Cs-137	2.384485E+005	1.521691E+004	2.142132E+004	9.006670E+002	0.000000E+000	0.000000E+000	3.127759E-003
Cs-138	5.763214E+004	3.681627E+003	5.182279E+003	2.177258E+002	0.000000E+000	0.000000E+000	7.564976E-004
Ba-139	5.807124E+004	3.701931E+003	5.211145E+003	1.985167E+002	0.000000E+000	0.000000E+000	6.464658E-004
Ba-140	2.565874E+005	1.635058E+004	2.301721E+004	8.770855E+002	0.000000E+000	0.000000E+000	2.855636E-003
La-140	2.522809E+003	1.607635E+002	2.263115E+002	8.623667E+000	0.000000E+000	0.000000E+000	2.807731E-005
La-141	1.419708E+003	9.048092E+001	1.273712E+002	4.853085E+000	0.000000E+000	0.000000E+000	1.580186E-005
La-142	5.978554E+002	3.811075E+001	5.364801E+001	2.043757E+000	0.000000E+000	0.000000E+000	6.655330E-006
Ce-141	5.972172E+003	3.805657E+002	5.357341E+002	2.041451E+001	0.000000E+000	0.000000E+000	6.466601E-005
Ce-143	5.357891E+003	3.414272E+002	4.806370E+002	1.831478E+001	0.000000E+000	0.000000E+000	5.963015E-005
Ce-144	4.685104E+003	2.985495E+002	4.202774E+002	1.601496E+001	0.000000E+000	0.000000E+000	5.214184E-005
Pr-143	2.220999E+003	1.415292E+002	1.992351E+002	7.591979E+000	0.000000E+000	0.000000E+000	2.471815E-005
Nd-147	9.909839E+002	6.314872E+001	8.889640E+001	3.387453E+000	0.000000E+000	0.000000E+000	1.102895E-005
Np-238	1.987290E+003	1.266377E+002	1.782717E+002	6.793110E+000	0.000000E+000	0.000000E+000	2.211727E-005
Np-239	8.298238E+004	5.287948E+003	7.444002E+003	2.836568E+002	0.000000E+000	0.000000E+000	9.235404E-004
Pu-238	2.484191E+001	1.583004E+000	2.228444E+000	8.491638E-002	0.000000E+000	0.000000E+000	2.764726E-007
Pu-239	1.790720E+000	1.141103E-001	1.606365E-001	6.121166E-003	0.000000E+000	0.000000E+000	1.992942E-008
Pu-240	2.712298E+000	1.728361E-001	2.433067E-001	9.271370E-003	0.000000E+000	0.000000E+000	3.018592E-008
Pu-241	7.275497E+002	4.636174E+001	6.526486E+001	2.486962E+000	0.000000E+000	0.000000E+000	8.097105E-006
Am-241	3.738748E-001	2.382447E-002	3.353844E-002	1.278005E-003	0.000000E+000	0.000000E+000	4.160957E-009
Cm-242	1.136744E+002	7.243690E+000	1.019717E+001	3.885700E-001	0.000000E+000	0.000000E+000	1.265115E-006
Cm-244	2.400529E+001	1.529692E+000	2.153395E+000	8.205658E-002	0.000000E+000	0.000000E+000	2.671616E-007

Time = 18000.000000 Seconds  
CPU ClockTime = 30.980000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	16.98137	70.22077	4.77487	21.75624	12.91218 ending at	12721.0 Sec
LPZ	2.13015	9.43685	0.64748	2.77763		
ControlRoom	0.43815	22.55431	1.43943	1.87758		

Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.210231E+001	2.992179E+000	2.153595E+000	1.006126E-001	0.000000E+000	0.000000E+000	4.645493E-007
Co-60	1.451345E+001	3.588308E+000	2.582653E+000	1.206577E-001	0.000000E+000	0.000000E+000	5.571014E-007
Br-82E	8.930184E+001	9.581576E+000	6.387721E+000	1.783546E+000	0.000000E+000	2.009535E+004	1.705789E-005
Br-82O	7.703602E+001	1.400113E+002	9.334225E+001	1.770284E-001	0.000000E+000	6.215055E+002	1.184237E-006
Br-82P	1.419937E+003	3.514994E+002	2.529887E+002	1.249553E+001	0.000000E+000	3.936202E+005	5.871305E-005
Br-83E	4.160948E+002	4.467153E+001	2.978126E+001	8.310576E+000	0.000000E+000	9.363225E+004	7.949154E-005
Br-83O	3.589573E+002	6.528769E+002	4.352548E+002	8.250048E-001	0.000000E+000	2.895843E+003	5.519139E-006
Br-83P	6.616106E+003	1.638861E+003	1.179562E+003	5.822456E+001	0.000000E+000	1.834034E+006	2.736110E-004
Br-84E	4.336693E+000	4.666482E-001	3.111101E-001	8.662724E-002	0.000000E+000	9.758536E+002	8.289503E-007
Br-84O	3.741740E+000	6.824139E+000	4.549591E+000	8.604624E-003	0.000000E+000	3.018104E+001	5.757316E-008
Br-84P	6.895646E+001	1.712341E+001	1.232471E+001	6.069430E-001	0.000000E+000	1.911466E+004	2.853343E-006
Kr-85	3.875074E+005	6.765230E+005	4.510153E+005	6.819367E+002	0.000000E+000	0.000000E+000	4.457352E-001
Kr-85m	4.176104E+006	7.293770E+006	4.862534E+006	7.349912E+003	0.000000E+000	0.000000E+000	4.804213E+000
Kr-87	1.061026E+006	1.855057E+006	1.236723E+006	1.867906E+003	0.000000E+000	0.000000E+000	1.220994E+000
Kr-88	6.537618E+006	1.142098E+007	7.614035E+006	1.150687E+004	0.000000E+000	0.000000E+000	7.521452E+000
Rb-86	5.031533E+002	1.245821E+002	8.966690E+001	4.484248E+000	0.000000E+000	0.000000E+000	2.114875E-005
Sr-89	1.768376E+004	4.372140E+003	3.146810E+003	1.470140E+002	0.000000E+000	0.000000E+000	6.787943E-004
Sr-90	1.999332E+003	4.943150E+002	3.557789E+002	1.662146E+001	0.000000E+000	0.000000E+000	7.674470E-005
Sr-91	1.583910E+004	3.916756E+003	2.819055E+003	1.316800E+002	0.000000E+000	0.000000E+000	6.080117E-004
Sr-92	6.593053E+003	1.631080E+003	1.173961E+003	5.481361E+001	0.000000E+000	0.000000E+000	2.531119E-004
Y-90	1.953501E+001	4.829965E+000	3.476326E+000	1.624047E-001	0.000000E+000	0.000000E+000	7.498594E-007
Y-91	2.253270E+002	5.570993E+001	4.009674E+001	1.873257E+000	0.000000E+000	0.000000E+000	8.649218E-006
Y-92	8.951724E+001	2.214278E+001	1.593713E+001	7.442253E-001	0.000000E+000	0.000000E+000	3.436513E-006
Y-93	1.937127E+002	4.790146E+001	3.447670E+001	1.610449E+000	0.000000E+000	0.000000E+000	7.435980E-006
Zr-95	2.950137E+002	7.293930E+001	5.249742E+001	2.452598E+000	0.000000E+000	0.000000E+000	1.132415E-005
Zr-97	2.364720E+002	5.847121E+001	4.208417E+001	1.965924E+000	0.000000E+000	0.000000E+000	9.077228E-006
Nb-95	2.954056E+002	7.303625E+001	5.256720E+001	2.455856E+000	0.000000E+000	0.000000E+000	1.133920E-005
Mo-99	3.865170E+003	9.556495E+002	6.878205E+002	3.213317E+001	0.000000E+000	0.000000E+000	1.483661E-004
Tc-99m	1.996882E+003	4.938476E+002	3.554432E+002	1.660139E+001	0.000000E+000	0.000000E+000	7.665563E-005
Ru-103	3.570977E+003	8.828904E+002	6.354526E+002	2.968735E+001	0.000000E+000	0.000000E+000	1.370726E-004
Ru-105	1.194338E+003	2.954003E+002	2.126124E+002	9.929383E+000	0.000000E+000	0.000000E+000	4.584890E-005
Ru-106	1.560300E+003	3.857688E+002	2.776537E+002	1.297156E+001	0.000000E+000	0.000000E+000	5.989238E-005
Rh-105	2.218637E+003	5.485622E+002	3.948230E+002	1.844471E+001	0.000000E+000	0.000000E+000	8.516372E-005
Sb-125	8.810567E+002	2.178326E+002	1.567831E+002	7.324670E+000	0.000000E+000	0.000000E+000	3.381951E-005
Sb-127	3.412121E+004	8.436286E+003	6.071944E+003	2.836673E+002	0.000000E+000	0.000000E+000	1.309754E-003
Sb-129	6.682175E+003	1.652734E+003	1.189544E+003	5.555370E+001	0.000000E+000	0.000000E+000	2.565192E-004
Te-127	3.524074E+003	8.714484E+002	6.272182E+002	2.929757E+001	0.000000E+000	0.000000E+000	1.352778E-004
Te-127m	6.807201E+002	1.683014E+002	1.211335E+002	6.659172E+000	0.000000E+000	0.000000E+000	2.612957E-005
Te-129	7.179651E+002	1.777676E+002	1.279480E+002	5.969374E+000	0.000000E+000	0.000000E+000	2.756848E-005
Te-129m	3.143088E+003	7.770990E+002	5.593102E+002	2.613009E+001	0.000000E+000	0.000000E+000	1.206480E-004
Te-131m	5.809920E+003	1.436520E+003	1.033923E+003	4.830098E+001	0.000000E+000	0.000000E+000	2.230175E-004
Te-132	5.928854E+004	1.465882E+004	1.055056E+004	4.928963E+002	0.000000E+000	0.000000E+000	2.275812E-003
Te-133m	7.497271E+002	1.857010E+002	1.336584E+002	6.233605E+000	0.000000E+000	0.000000E+000	2.879056E-005
Te-134	5.090654E+002	1.261646E+002	9.080742E+001	4.232784E+000	0.000000E+000	0.000000E+000	1.955145E-005
I-131E	1.368766E+004	1.468555E+003	9.790368E+002	2.733709E+002	0.000000E+000	3.080098E+006	2.614511E-003
I-131O	1.180760E+004	2.145945E+004	1.430630E+004	2.713358E+001	0.000000E+000	9.526075E+004	1.815104E-004
I-131P	2.176395E+005	5.387366E+004	3.877510E+004	1.915236E+003	0.000000E+000	6.033181E+007	8.999110E-003
I-132E	4.352411E+003	4.672866E+002	3.115271E+002	8.693000E+001	0.000000E+000	9.794066E+005	8.314999E-004
I-132O	3.754753E+003	6.829480E+003	4.553025E+003	8.629760E+000	0.000000E+000	3.029092E+004	5.773175E-005
I-132P	6.920544E+004	1.714336E+004	1.233885E+004	4.090389E+002	0.000000E+000	1.918425E+007	2.862036E-003
I-133E	2.357027E+004	2.529033E+003	1.686024E+003	6.770488E+002	0.000000E+000	5.303953E+006	4.502284E-003
I-133O	2.033288E+004	3.695646E+004	2.463766E+004	4.672523E+001	0.000000E+000	1.640398E+005	3.125704E-004
I-133P	3.747773E+005	9.277764E+004	6.677594E+004	3.298069E+003	0.000000E+000	1.038919E+008	1.549681E-002
I-134E	5.738925E+002	6.168192E+001	4.112218E+001	1.146298E+001	0.000000E+000	1.291398E+005	1.096675E-004
I-134O	4.951227E+002	9.017481E+002	6.011786E+002	1.138274E+000	0.000000E+0		

Ba-139	2.603105E+003	6.443687E+002	4.637828E+002	2.164263E+001	0.000000E+000	0.000000E+000	9.994853E-005
Ba-140	3.090817E+004	7.641781E+003	5.500106E+003	2.569554E+002	0.000000E+000	0.000000E+000	1.186417E-003
La-140	2.949444E+002	7.292513E+001	5.248724E+001	2.452029E+000	0.000000E+000	0.000000E+000	1.132160E-005
La-141	1.204010E+002	2.978082E+001	2.143455E+001	1.000983E+000	0.000000E+000	0.000000E+000	4.622077E-006
La-142	2.940720E+001	7.278594E+000	5.238745E+000	2.444944E-001	0.000000E+000	0.000000E+000	1.129086E-006
Ce-141	7.213831E+002	1.783552E+002	1.283696E+002	5.997224E+000	0.000000E+000	0.000000E+000	2.769043E-005
Ce-143	6.217579E+002	1.537313E+002	1.106468E+002	5.169005E+000	0.000000E+000	0.000000E+000	2.386657E-005
Ce-144	5.668089E+002	1.401379E+002	1.008631E+002	4.712170E+000	0.000000E+000	0.000000E+000	2.175706E-005
Pr-143	2.676118E+002	6.616471E+001	4.762148E+001	2.224793E+000	0.000000E+000	0.000000E+000	1.027234E-005
Nd-147	1.192855E+002	2.949234E+001	2.122685E+001	9.916808E-001	0.000000E+000	0.000000E+000	4.578800E-006
Np-238	2.340007E+002	5.785627E+001	4.164156E+001	1.945370E+000	0.000000E+000	0.000000E+000	8.982226E-006
Np-239	9.798042E+003	2.422541E+003	1.743603E+003	8.145625E+001	0.000000E+000	0.000000E+000	3.761022E-004
Pu-238	3.006005E+000	7.432050E-001	5.349153E-001	2.499044E-002	0.000000E+000	0.000000E+000	1.153860E-007
Pu-239	2.166871E-001	5.357375E-002	3.855924E-002	1.801430E-003	0.000000E+000	0.000000E+000	8.317574E-009
Pu-240	3.282033E-001	8.114502E-002	5.840342E-002	2.728520E-003	0.000000E+000	0.000000E+000	1.259814E-008
Pu-241	8.803664E+001	2.176619E+001	1.566602E+001	7.318932E-001	0.000000E+000	0.000000E+000	3.379302E-006
Am-241	4.524093E+001	1.118537E-002	8.050575E-003	1.761108E-004	0.000000E+000	0.000000E+000	1.736581E-009
Cm-242	1.375036E+001	3.399643E+000	2.446863E+000	1.143137E-001	0.000000E+000	0.000000E+000	5.278101E-007
Cm-244	2.904749E+000	7.181705E-001	5.168970E-001	2.414865E-002	0.000000E+000	0.000000E+000	1.114993E-007

Time = 25200.000000 Seconds  
CPU ClockTime = 42.630000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	2.21315	77.14140	5.17957	27.39271	12.91218 ending at	12721.0 Sec
ControlRoom		2.65333	10.12891	0.68795	3.34128		
		0.65618	26.66541	1.66185	2.31803		
Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.362423E+000	9.898658E-001	7.124473E-001	2.623872E-002	0.000000E+000	0.000000E+000	1.333910E-007
Co-60	4.035490E+000	1.188008E+000	8.550585E-001	3.149099E-002	0.000000E+000	0.000000E+000	1.600922E-007
Br-82E	1.516267E+001	9.209973E+000	6.139985E+000	1.394557E+000	0.000000E+000	1.931951E+004	1.384132E-005
Br-82O	7.392769E+001	1.345831E+002	8.972215E+001	1.724165E-001	0.000000E+000	5.975107E+002	1.300286E-006
Br-82P	3.796243E+002	1.118995E+002	8.053872E+001	3.096525E+000	0.000000E+000	3.784234E+005	1.589871E-005
Br-83E	4.123849E+001	2.507508E+001	1.671685E+001	3.792963E+000	0.000000E+000	5.254379E+004	3.765029E-005
Br-83O	2.010719E+002	3.664736E+002	2.443177E+002	4.690685E-001	0.000000E+000	1.625066E+003	3.537569E-006
Br-83P	1.032482E+003	3.046760E+002	2.192890E+002	8.422235E+000	0.000000E+000	1.029208E+006	4.324737E-005
Br-84E	5.599706E-002	3.418490E-002	2.279076E-002	5.151086E-003	0.000000E+000	7.134715E+001	5.115313E-008
Br-84O	2.730727E-001	4.999109E-001	3.332860E-001	6.376658E-004	0.000000E+000	2.206613E+000	4.809434E-009
Br-84P	1.402010E+000	4.154598E-001	2.990304E-001	1.143897E-002	0.000000E+000	1.397521E+003	5.876116E-008
Kr-85	3.867591E+005	6.762962E+005	4.508641E+005	6.883011E+002	0.000000E+000	0.000000E+000	5.076625E-001
Kr-85m	3.058791E+006	5.352250E+006	3.568182E+006	5.444649E+003	0.000000E+000	0.000000E+000	4.015740E+000
Kr-87	3.554921E+005	6.230887E+005	4.153988E+005	6.330788E+002	0.000000E+000	0.000000E+000	4.669291E-001
Kr-88	4.004917E+006	7.010477E+006	4.673683E+006	7.129531E+003	0.000000E+000	0.000000E+000	5.258430E+000
Rb-86	1.394742E+002	4.112014E+001	2.959586E+001	1.149030E+000	0.000000E+000	0.000000E+000	5.912206E-006
Sr-89	4.911527E+003	1.445908E+003	1.040680E+003	3.832717E+001	0.000000E+000	0.000000E+000	1.948456E-004
Sr-90	5.559312E+002	1.636606E+002	1.177933E+002	4.338216E+000	0.000000E+000	0.000000E+000	2.205439E-005
Sr-91	3.806225E+003	1.120851E+003	8.067241E+002	2.970238E+001	0.000000E+000	0.000000E+000	1.510036E-004
Sr-92	1.099165E+003	3.239240E+002	2.331425E+002	8.577804E+000	0.000000E+000	0.000000E+000	4.361168E-005
Y-90	5.315655E+000	1.564946E+000	1.126356E+000	4.148087E-002	0.000000E+000	0.000000E+000	2.108791E-007
Y-91	6.259259E+001	1.842668E+001	1.326244E+001	4.884421E-001	0.000000E+000	0.000000E+000	2.483116E-006
Y-92	1.682565E+001	4.957298E+000	3.567984E+000	1.313045E-001	0.000000E+000	0.000000E+000	6.675693E-007
Y-93	4.701876E+001	1.384573E+001	9.965354E+000	3.669167E-001	0.000000E+000	0.000000E+000	1.865360E-006
Zr-95	8.195753E+001	2.412753E+001	1.736558E+001	6.395567E-001	0.000000E+000	0.000000E+000	3.251344E-006
Zr-97	6.054542E+001	1.782700E+001	1.283084E+001	4.724710E-001	0.000000E+000	0.000000E+000	2.401961E-006
Nb-95	8.200491E+001	2.414151E+001	1.737564E+001	6.399265E-001	0.000000E+000	0.000000E+000	3.253224E-006
Mo-99	1.052391E+003	3.098269E+002	2.229952E+002	8.212364E+000	0.000000E+000	0.000000E+000	4.174974E-005
Tc-99m	4.408741E+002	1.298506E+002	9.345901E+001	3.440449E+000	0.000000E+000	0.000000E+000	1.749115E+005
Ru-103	9.914865E+002	2.918847E+002	2.100815E+002	7.737079E+000	0.000000E+000	0.000000E+000	3.933335E-005
Ru-105	2.430338E+002	7.159274E+001	5.152839E+001	1.896579E+000	0.000000E+000	0.000000E+000	9.642309E-006
Ru-106	4.337897E+002	1.277034E+002	9.191344E+001	3.865084E+000	0.000000E+000	0.000000E+000	1.720891E-005
Rh-105	5.932223E+002	1.746529E+002	1.257049E+002	4.629237E+000	0.000000E+000	0.000000E+000	2.353404E-005
Sb-125	2.449726E+002	7.211751E+001	5.190595E+001	1.911647E+000	0.000000E+000	0.000000E+000	9.718325E-006
Sb-127	9.346096E+003	2.751483E+003	1.980356E+003	7.293249E+001	0.000000E+000	0.000000E+000	3.707713E-004
Sb-129	1.355890E+003	3.994196E+002	2.874796E+002	1.058106E+001	0.000000E+000	0.000000E+000	5.379468E-005
Te-127	8.455408E+002	2.489944E+002	1.792118E+002	6.598290E+000	0.000000E+000	0.000000E+000	3.354498E-005
Te-127m	1.891808E+002	5.569300E+001	4.008455E+001	1.476275E+000	0.000000E+000	0.000000E+000	7.505002E-006
Te-129	6.042610E+001	1.783266E+001	1.283503E+001	4.715949E-001	0.000000E+000	0.000000E+000	2.398022E-006
Te-129m	8.724659E+002	2.568462E+002	1.848628E+002	6.808300E+000	0.000000E+000	0.000000E+000	3.461168E-005
Te-131m	1.547842E+003	4.557095E+002	3.279930E+002	1.207866E+001	0.000000E+000	0.000000E+000	6.140534E-005
Te-132	1.619624E+004	4.768187E+003	3.431861E+003	1.263878E+002	0.000000E+000	0.000000E+000	6.425256E-004
Te-133m	4.645059E+001	1.371692E+001	9.872762E+000	3.623448E-001	0.000000E+000	0.000000E+000	1.843569E-006
Te-134	1.953559E+001	5.774574E+000	4.156271E+000	1.524778E-001	0.000000E+000	0.000000E+000	7.754549E-007
I-131E	2.399816E+003	1.457584E+003	9.717225E+002	2.207180E+002	0.000000E+000	3.057727E+006	2.190665E-003
I-131O	1.170061E+004	2.129912E+004	1.419942E+004	2.728810E+001	0.000000E+000	9.456886E+004	2.057941E-004
I-131P	6.008364E+004	1.770931E+004	1.274613E+004	4.900896E+002	0.000000E+000	5.989361E+007	2.516286E-003
I-132E	4.184440E+002	2.544501E+002	1.696349E+002	3.848700E+001	0.000000E+000	5.331579E+005	3.820379E-004
I-132O	2.040266E+003	3.718835E+003	2.479244E+003	4.759685E+000	0.000000E+000	1.648942E+004	3.589611E-005
I-132P	1.047653E+004	3.091719E+003	2.225250E+003	8.546010E+001	0.000000E+000	1.044330E+007	4.388320E-004
I-133E	3.893931E+003	2.365343E+003	1.576897E+003	3.581374E+002	0.000000E+000	4.961451E+006	3.554621E-003
I-133O	1.898544E+004	3.456448E+004	2.304301E+004	4.427902E+001	0.000000E+000	1.534469E+005	3.339324E-004
I-133P	9.749148E+004	2.873858E+004	2.068436E+004	7.952224E+002	0.000000E+000	9.718306E+007	4.082987E-003
I-134E	2.084678E+001	1.270078E+001	8.467369E+000	1.917535E+000	0.000000E+000	2.656159E+004	1.903809E-005
I-134O	1.016528E+002	1.856768E+002	1.237872E+002	2.37552E-001	0.000000E+000	8.214923E+002	1.789371E-006
I-134P	5.219415E+002	1.543387E+002	1.110854E+002	4.258055E+000	0.000000E+000	5.202785E+005	2.186895E-005
I-135E	2.190327E+003	1.330875E+003	8.872529E+002	2.014534E+002	0.000000E+000	2.790801E+006	1.999545E-003
I-135O	1.067938E+004	1.944874E+004	1.296587E+004	2.490885E+001	0.000000E+000	8.631344E+004	1.878523E-004
I-135P	5.483879E+004	1.617021E+004	1.163839E+004	4.473178E+002	0.000000E+000	5.466518E+007	2.296771E-003
Xe-133	5.202416E+007	9.097285E+007	6.064858E+007	9.258612E+004	0.000000E+000	0.000000E+000	6.828770E+001
Xe-135	1.256645E+007	2.198122E+007	1.465418E+007	2.236613E+004	0.000000E+000	0.000000E+000	1.649632E+001
Cs-134	1.565965E+004	4.616791E+003	3.322895E+003	1.290089E+002	0.000000E+000	0.000000E+000	6.638004E-004
Cs-136	4.525160E+003	1.334123E+003	9.602235E+002	3.727963E+001	0.000000E+000	0.000000E+000	1.918182E-004
Cs-137	8.022950E+003	2.365332E+003	1.702427E+003	6.609544E+001	0.000000E+000	0.000000E+000	3.400866E-004
Cs-138	1.106387E+001	3.279252E+000	2.360266E+000	9.117151E-002	0.000000E+000	0.000000E+000	4.693472E-007
Ba-139	2.681360E+002	7.909808E+001	5.693065E+001	2.092620E+000	0.0		

Np-238	6.331490E+001	1.864033E+001	1.341622E+001	4.940801E-001	0.000000E+000	0.000000E+000	2.511791E-006
Np-239	2.658433E+003	7.826558E+002	5.633098E+002	2.074517E+001	0.000000E+000	0.000000E+000	1.054637E-004
Pu-238	8.358483E-001	2.460654E-001	1.771035E-001	6.522553E-003	0.000000E+000	0.000000E+000	3.315900E-008
Pu-239	6.025203E-002	1.773760E-002	1.276648E-002	4.701775E-004	0.000000E+000	0.000000E+000	2.390263E-009
Pu-240	9.126021E-002	2.686610E-002	1.933664E-002	7.121502E-004	0.000000E+000	0.000000E+000	3.620391E-009
Pu-241	2.447920E+001	7.206434E+000	5.186768E+000	1.910237E-001	0.000000E+000	0.000000E+000	9.711161E-007
Am-241	1.257969E+002	3.703336E-003	2.665444E-003	9.816577E-005	0.000000E+000	0.000000E+000	4.990498E-010
Cm-242	3.822070E+000	1.125180E+000	8.098387E-001	2.982557E-002	0.000000E+000	0.000000E+000	1.516256E-007
Cm-244	8.076875E-001	2.377752E-001	1.711366E-001	6.302800E-003	0.000000E+000	0.000000E+000	3.204183E-008

Time = 28800.000000 Seconds  
CPU ClockTime = 49.710000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	24.18120	78.66936	5.25906	29.44026	ending at	12721.0 Sec
LPZ	2.85013	10.28170	0.69590	3.54603		
ControlRoom	0.74423	27.72963	1.71168	2.45591		

Isotope	DryWell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.772330E+000	5.693387E-001	4.097766E-001	1.349269E-002	0.000000E+000	0.000000E+000	6.926376E-008
Co-60	2.127938E+000	6.835721E-001	4.919950E-001	1.619992E-002	0.000000E+000	0.000000E+000	8.316114E-008
Br-82E	1.485362E+001	9.029611E+000	6.019744E+000	1.312411E+000	0.000000E+000	1.894290E+004	1.255389E-005
Br-82O	7.242088E+001	1.319476E+002	8.796509E+001	1.692992E-001	0.000000E+000	5.858629E+002	1.315086E-006
Br-82P	1.962892E+002	6.313642E+001	4.544190E+001	1.553445E+000	0.000000E+000	3.710465E+005	8.042419E-006
Br-83E	3.086434E+001	1.878659E+001	1.252449E+001	2.271715E+000	0.000000E+000	3.936129E+004	2.608958E-005
Br-83O	1.504893E+002	2.745670E+002	1.830462E+002	3.529128E-001	0.000000E+000	1.217360E+003	2.733628E-006
Br-83P	4.078709E+002	1.313670E+002	9.455071E+001	3.228127E+000	0.000000E+000	7.709944E+005	1.671419E-005
Br-84E	1.512751E-002	9.252450E-003	6.168524E-003	1.336838E-003	0.000000E+000	1.929180E+001	1.279438E-008
Br-84O	7.377013E-002	1.353053E-001	9.020684E-002	1.727170E-004	0.000000E+000	5.966534E-001	1.341706E-009
Br-84P	1.999122E-001	6.471402E-002	4.657841E-002	1.582613E-003	0.000000E+000	3.778805E+002	8.197393E-009
Kr-85	3.863854E+005	6.761828E+005	4.507886E+005	6.888367E+002	0.000000E+000	0.000000E+000	5.230343E-001
Kr-85m	2.617816E+006	4.584886E+006	3.056604E+006	4.668043E+003	0.000000E+000	0.000000E+000	3.544419E+000
Kr-87	2.057699E+005	3.611156E+005	2.407474E+005	3.671398E+002	0.000000E+000	0.000000E+000	2.787611E-001
Kr-88	3.134588E+006	5.492496E+006	3.661689E+006	5.590288E+003	0.000000E+000	0.000000E+000	4.244653E+000
Rb-86	7.343286E+001	2.362403E+001	1.700319E+001	5.862508E-001	0.000000E+000	0.000000E+000	3.040723E-006
Sr-89	2.588437E+003	8.315035E+002	5.984674E+002	1.970569E+001	0.000000E+000	0.000000E+000	1.011577E-004
Sr-90	2.931495E+002	9.417041E+001	6.777833E+001	2.231737E+000	0.000000E+000	0.000000E+000	1.145646E-005
Sr-91	1.865848E+003	5.995961E+002	4.315546E+002	1.420490E+001	0.000000E+000	0.000000E+000	7.292182E-005
Sr-92	4.487979E+002	1.443534E+002	1.038976E+002	3.416900E+000	0.000000E+000	0.000000E+000	1.754209E-005
Y-90	2.772862E+000	8.907933E-001	6.411408E-001	2.110977E-002	0.000000E+000	0.000000E+000	1.083659E-007
Y-91	3.298966E+001	1.059752E+001	7.627471E+000	2.511492E-001	0.000000E+000	0.000000E+000	1.289257E-006
Y-92	7.294647E+000	2.345586E+000	1.688221E+000	5.553660E-002	0.000000E+000	0.000000E+000	2.851141E-007
Y-93	2.316475E+001	7.443880E+000	5.357674E+000	1.763555E-001	0.000000E+000	0.000000E+000	9.053312E-007
Zr-95	4.319786E+001	1.387677E+001	9.987687E+000	3.288639E-001	0.000000E+000	0.000000E+000	1.688200E-006
Zr-97	3.063600E+001	9.843426E+000	7.084725E+000	2.332333E-001	0.000000E+000	0.000000E+000	1.197305E-006
Nb-95	4.320663E+001	1.387962E+001	9.989734E+000	3.289307E-001	0.000000E+000	0.000000E+000	1.688543E-006
Mo-99	5.491378E+002	1.764125E+002	1.269714E+002	4.80579E+000	0.000000E+000	0.000000E+000	2.146078E-005
Tc-99m	2.071551E+002	6.658392E+001	4.792329E+001	1.1877110E+000	0.000000E+000	0.000000E+000	8.096331E-006
Ru-103	5.224403E+002	1.678277E+002	1.207925E+002	3.977322E+000	0.000000E+000	0.000000E+000	2.041730E-005
Ru-105	1.096318E+002	3.524504E+001	2.536738E+001	8.346553E-001	0.000000E+000	0.000000E+000	4.284894E-006
Ru-106	2.287256E+002	7.347513E+001	5.288308E+001	1.741281E+000	0.000000E+000	0.000000E+000	8.938741E-006
Rh-105	3.067490E+002	9.854863E+001	7.092954E+001	2.335281E+000	0.000000E+000	0.000000E+000	1.198809E-005
Sb-125	1.291738E+002	4.149537E+001	2.986593E+001	9.833956E-001	0.000000E+000	0.000000E+000	5.048191E-006
Sb-127	4.891399E+003	1.571356E+003	1.130970E+003	3.723813E+001	0.000000E+000	0.000000E+000	1.911598E-004
Sb-129	6.107704E+002	1.963553E+002	1.413254E+002	4.649956E+000	0.000000E+000	0.000000E+000	2.387163E-005
Te-127	4.141707E+002	1.330955E+002	9.579448E+001	3.153125E+000	0.000000E+000	0.000000E+000	1.618679E-005
Te-127m	9.973123E+001	3.203739E+001	2.305863E+001	7.592506E-001	0.000000E+000	0.000000E+000	3.897559E-006
Te-129	1.753013E+001	5.648039E+000	4.065169E+000	1.334761E-001	0.000000E+000	0.000000E+000	6.853435E-007
Te-129m	4.596682E+002	1.476630E+002	1.062791E+002	3.499439E+000	0.000000E+000	0.000000E+000	1.796413E-005
Te-131m	7.989228E+002	2.566707E+002	1.847365E+002	6.082205E+000	0.000000E+000	0.000000E+000	3.122828E-005
Te-132	8.465175E+003	2.719446E+003	1.957297E+003	6.444524E+001	0.000000E+000	0.000000E+000	3.308261E-004
Te-133m	1.156206E+001	3.728015E+000	2.683242E+000	8.803795E-002	0.000000E+000	0.000000E+000	4.520639E-007
Te-134	3.826951E+000	1.235410E+000	8.891912E-001	2.914159E-002	0.000000E+000	0.000000E+000	1.496519E-007
I-131E	2.388919E+003	1.452129E+003	9.680859E+002	2.110756E+002	0.000000E+000	3.046602E+006	2.019034E-003
I-131O	1.164748E+004	2.121941E+004	1.414628E+004	2.722793E+001	0.000000E+000	9.422480E+004	2.115017E-004
I-131P	3.156933E+004	1.015347E+004	7.307870E+003	2.498407E+002	0.000000E+000	5.967571E+007	1.293455E-003
I-132E	3.084538E+002	1.877640E+002	1.251771E+002	7.25486E+001	0.000000E+000	3.933710E+005	2.607376E-004
I-132O	1.503971E+003	2.744205E+003	1.829486E+003	3.517036E+000	0.000000E+000	1.216611E+004	2.732005E-005
I-132P	4.076204E+003	1.312962E+003	9.449979E+002	3.226156E+001	0.000000E+000	7.705204E+006	1.670408E-004
I-133E	3.762696E+003	2.287515E+003	1.525012E+003	3.324585E+002	0.000000E+000	4.798585E+006	3.180157E-003
I-133O	1.834558E+004	3.342719E+004	2.228481E+004	4.288739E+001	0.000000E+000	1.484099E+005	3.331419E-004
I-133P	4.972369E+004	1.599471E+004	1.151206E+004	3.935177E+002	0.000000E+000	9.399291E+007	2.037311E-003
I-134E	9.445874E+000	5.763236E+000	3.842242E+000	8.346874E-001	0.000000E+000	1.204622E+004	7.986770E-006
I-134O	4.605984E+001	8.425463E+001	5.617099E+001	1.077731E-001	0.000000E+000	3.725636E+002	8.371891E-007
I-134P	1.248277E+002	4.030469E+001	2.900935E+001	9.880789E-001	0.000000E+000	2.359569E+005	5.116916E-006
I-135E	1.969126E+003	1.197532E+003	7.983570E+002	1.739867E+002	0.000000E+000	2.511234E+006	1.664332E-003
I-135O	9.600868E+003	1.750013E+004	1.166678E+004	2.244635E+001	0.000000E+000	7.766703E+004	1.743599E-004
I-135P	2.602185E+004	8.373495E+003	6.026761E+003	2.059429E+002	0.000000E+000	4.918912E+007	1.066232E-003
Xe-133	5.168877E+007	9.045902E+007	6.030602E+007	9.214998E+004	0.000000E+000	0.000000E+000	6.996954E+001
Xe-135	1.163364E+007	2.036711E+007	1.357810E+007	2.074247E+004	0.000000E+000	0.000000E+000	1.574971E+001
Cs-134	8.257237E+003	2.656409E+003	1.911927E+003	6.592157E+001	0.000000E+000	0.000000E+000	3.419170E-004
Cs-136	2.380949E+003	7.659757E+002	5.513044E+002	1.900829E+001	0.000000E+000	0.000000E+000	9.859085E-005
Cs-137	4.230602E+003	1.361013E+003	9.795775E+002	3.377497E+001	0.000000E+000	0.000000E+000	1.751815E-004
Cs-138	1.603433E+000	5.191513E-001	3.736630E-001	1.280499E-002	0.000000E+000	0.000000E+000	6.444822E-008
Ba-139	8.605713E+001	2.771288E+001	1.994628E+001	6.552306E-001	0.000000E+000	0.000000E+000	3.364206E-006
Ba-140	4.501216E+003	1.445972E+003	1.040726E+003	3.426763E+001	0.000000E+000	0.000000E+000	1.759105E-004
La-140	4.106985E+001	1.319428E+001	9.496468E+000	3.126648E-001	0.000000E+000	0.000000E+000	1.605053E-006
La-141	1.035801E+001	3.330310E+000	2.396969E+000	7.885869E-002	0.000000E+000	0.000000E+000	4.048425E-007
La-142	1.117479E+000	3.597777E-001	2.589489E-001	8.508278E-003	0.000000E+000	0.000000E+000	4.368402E-008
Ce-141	1.054911E+002	3.388779E+001	2.439044E+001	8.031007E-001	0.000000E+000	0.000000E+000	4.126616E-006
Ce-143	8.561737E+001	2.750631E+001	1.979743E+001	6.518056E-001	0.000000E+000	0.000000E+000	3.346024E-006
Ce-144	8.308302E+001	2.668934E+001	1.920942E+001	6.325083E-001	0.000000E+000	0.000000E+000	3.246936E-006
Pr-143	3.898882E+001	1.252478E+001	9.014600E+000	2.968208E-001	0.000000E+000	0.000000E+000	1.523709E-006
Nd-147	1.735275E+001	5.574414E+000	4.012136E+000	1.321060E-001	0.000000E+000	0.000000E+000	6.781573E-007
Np-238	3.293445E+001	1.058047E+001	7.615205E+000	2.507297E-00			

Time = 29988.000000 Seconds  
CPU ClockTime = 51.690000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding	2-Hour	Window	
	LPZ	2.75889	79.05153	5.27758	30.03647	12.91218	ending at	12721.0	Sec
ControlRoom		2.89346	10.29645	0.69661	3.59007				
		0.76952	27.99898	1.72335	2.49287				
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom		
Co-58	1.434726E+000	4.743543E-001	3.414124E-001	1.084379E-002	0.000000E+000	0.000000E+000	4.957188E-008		
Co-60	1.722819E+000	5.696036E-001	4.099672E-001	1.302122E-002	0.000000E+000	0.000000E+000	5.952591E-008		
Br-82E	1.475302E+001	8.970870E+000	5.980583E+000	1.293573E+000	0.000000E+000	1.882024E+004	1.142898E-005		
Br-82O	7.193040E+001	1.310892E+002	8.739285E+001	1.682372E-001	0.000000E+000	5.820692E+002	1.216387E-006		
Br-82P	1.578939E+002	5.227079E+001	3.762146E+001	1.238475E+000	0.000000E+000	3.686438E+005	5.712907E-006		
Br-83E	2.804968E+001	1.707921E+001	1.138623E+001	2.459537E+000	0.000000E+000	3.578246E+004	2.173292E-005		
Br-83O	1.367655E+002	2.496136E+002	1.664104E+002	3.199873E-001	0.000000E+000	1.106674E+003	2.313572E-006		
Br-83P	3.002023E+002	9.952222E+001	7.163061E+001	2.354865E+000	0.000000E+000	7.008935E+005	1.086372E-005		
Br-84E	9.821918E-003	6.011130E-003	4.007566E-003	8.613515E-004	0.000000E+000	1.252943E+001	7.614271E-009		
Br-84O	4.789711E-002	8.790515E-002	5.860556E-002	1.122076E-004	0.000000E+000	3.875081E-001	8.112858E-010		
Br-84P	1.051207E-001	3.503590E-002	2.521736E-002	4.435971E+003	0.000000E+000	2.454218E+002	3.806533E-009		
Kr-85	3.862622E+005	6.761454E+005	4.507636E+005	6.888697E+002	0.000000E+000	0.000000E+000	4.868428E-001		
Kr-85m	2.486724E+006	4.356623E+006	2.904428E+006	4.435971E+003	0.000000E+000	0.000000E+000	3.134971E+000		
Kr-87	1.718004E+005	3.016255E+005	2.010867E+005	3.066579E+002	0.000000E+000	0.000000E+000	2.167113E-001		
Kr-88	2.891107E+006	5.067539E+006	3.378382E+006	5.158064E+003	0.000000E+000	0.000000E+000	3.645252E+000		
Rb-86	5.942256E+001	1.967536E+001	1.416117E+001	4.700073E-001	0.000000E+000	0.000000E+000	2.172348E-006		
Sr-89	2.095263E+003	6.927440E+002	4.985965E+002	1.583619E+001	0.000000E+000	0.000000E+000	7.239440E-005		
Sr-90	2.373404E+002	7.847018E+001	5.647823E+001	1.793840E+000	0.000000E+000	0.000000E+000	8.200456E-006		
Sr-91	1.474695E+003	4.877546E+002	3.510575E+002	1.114610E+001	0.000000E+000	0.000000E+000	5.095522E-005		
Sr-92	3.339465E+002	1.105584E+002	7.957381E+001	2.524167E+000	0.000000E+000	0.000000E+000	1.154019E-005		
Y-90	2.236974E+000	7.396369E-001	5.323473E-001	1.690730E-002	0.000000E+000	0.000000E+000	7.729124E-008		
Y-91	2.670483E+001	8.829254E+000	6.354779E+000	2.018376E-001	0.000000E+000	0.000000E+000	9.226913E-007		
Y-92	5.536369E+000	1.832329E+000	1.318807E+000	4.184653E-002	0.000000E+000	0.000000E+000	1.913132E-007		
Y-93	1.833882E+001	6.065393E+000	4.365519E+000	1.386089E-001	0.000000E+000	0.000000E+000	6.336600E-007		
Zr-95	3.496877E+001	1.156151E+001	8.321294E+000	2.642972E-001	0.000000E+000	0.000000E+000	1.208223E-006		
Zr-97	2.446819E+001	8.091494E+000	5.823787E+000	1.849348E-001	0.000000E+000	0.000000E+000	8.454336E-007		
Nb-95	3.497155E+001	1.156245E+001	8.321972E+000	2.643182E-001	0.000000E+000	0.000000E+000	1.208319E-006		
Mo-99	4.430551E+002	1.464922E+002	1.054365E+002	3.348659E+000	0.000000E+000	0.000000E+000	1.530830E-005		
Tc-99m	1.614542E+002	5.341273E+001	3.844342E+001	1.220322E+000	0.000000E+000	0.000000E+000	5.578883E-006		
Ru-103	4.228771E+002	1.398134E+002	1.006295E+002	3.196144E+000	0.000000E+000	0.000000E+000	1.461103E-005		
Ru-105	8.430347E+001	2.789546E+001	2.007757E+001	6.371993E-001	0.000000E+000	0.000000E+000	2.913094E-006		
Ru-106	1.851768E+002	6.122373E+001	4.406525E+001	1.399583E+000	0.000000E+000	0.000000E+000	6.398130E-006		
Rh-105	2.467515E+002	8.159007E+001	5.872376E+001	1.864979E+000	0.000000E+000	0.000000E+000	8.525728E-006		
Sb-125	1.045811E+003	3.457690E+001	2.488643E+001	7.904331E-001	0.000000E+000	0.000000E+000	3.613428E-006		
Sb-127	3.950373E+003	1.306135E+003	9.400796E+002	2.985733E+001	0.000000E+000	0.000000E+000	1.364918E-004		
Sb-129	4.694437E+002	1.553370E+002	1.118028E+002	3.548245E+000	0.000000E+000	0.000000E+000	1.622157E-005		
Te-127	3.272609E+002	1.082418E+002	7.790617E+001	2.473515E+000	0.000000E+000	0.000000E+000	1.130787E-005		
Te-127m	8.073764E+001	2.669376E+001	1.921260E+001	6.102225E-001	0.000000E+000	0.000000E+000	2.789604E-006		
Te-129	1.165280E+001	3.864761E+000	2.781657E+000	8.808671E-002	0.000000E+000	0.000000E+000	4.027725E-007		
Te-129m	3.720524E+002	1.230096E+002	8.853510E+001	2.812006E+000	0.000000E+000	0.000000E+000	1.285496E-005		
Te-131m	6.422759E+002	2.123750E+002	1.528551E+002	4.854407E+000	0.000000E+000	0.000000E+000	2.219187E-005		
Te-132	6.833593E+003	2.259448E+003	1.626218E+003	5.164904E+001	0.000000E+000	0.000000E+000	2.361119E-004		
Te-133m	7.306843E+000	2.425329E+000	1.745632E+000	5.523666E-002	0.000000E+000	0.000000E+000	2.525813E-007		
Te-134	2.234712E+000	7.426897E-001	5.345537E-001	1.689454E-002	0.000000E+000	0.000000E+000	7.726067E-008		
I-131E	2.385333E+003	1.450333E+003	9.668888E+002	2.091501E+002	0.000000E+000	3.042940E+006	1.847871E-003		
I-131O	1.163000E+004	2.119317E+004	1.412878E+004	2.720072E+001	0.000000E+000	9.411153E+004	1.966663E-004		
I-131P	2.552898E+004	8.450659E+003	6.082288E+003	2.002413E+002	0.000000E+000	5.960397E+007	9.362378E-004		
I-132E	2.789218E+002	1.698461E+002	1.132317E+002	2.445732E+001	0.000000E+000	3.558153E+005	2.161107E-004		
I-132O	1.359978E+003	2.482332E+003	1.654902E+003	3.181973E+000	0.000000E+000	1.100460E+004	2.300630E-005		
I-132P	2.985167E+003	9.897130E+002	7.123411E+002	2.341652E+001	0.000000E+000	6.969578E+006	1.080283E-004		
I-133E	3.720366E+003	2.262398E+003	1.508267E+003	3.262094E+002	0.000000E+000	4.746022E+006	2.882141E-003		
I-133O	1.813920E+004	3.306016E+004	2.204012E+004	4.242628E+001	0.000000E+000	1.467842E+005	3.067501E-004		
I-133P	3.981716E+004	1.318242E+004	9.487934E+003	3.123156E+002	0.000000E+000	9.296331E+007	1.440671E-003		
I-134E	7.274266E+000	4.440402E+000	2.960333E+000	6.378867E-001	0.000000E+000	9.279571E+003	5.637655E-006		
I-134O	3.547068E+001	6.491570E+001	4.327808E+001	8.304234E-002	0.000000E+000	2.869970E+002	6.004138E-007		
I-134P	7.785352E+001	2.587773E+001	1.862553E+001	6.107820E-001	0.000000E+000	1.817648E+005	2.818248E-006		
I-135E	1.901148E+003	1.156529E+003	7.710216E+002	1.666982E+002	0.000000E+000	2.425266E+006	1.472864E-003		
I-135O	9.269426E+003	1.690093E+004	1.126732E+004	2.168249E+001	0.000000E+000	7.500823E+004	1.567686E-004		
I-135P	2.034702E+004	6.738913E+003	4.850283E+003	1.595998E+002	0.000000E+000	4.750521E+007	7.362340E-004		
Xe-133	5.157856E+007	9.029009E+007	6.019340E+007	9.198730E+004	0.000000E+000	0.000000E+000	6.500987E+001		
Xe-135	1.134127E+007	1.986091E+007	1.324063E+007	2.022875E+004	0.000000E+000	0.000000E+000	1.429609E+001		
Cs-134	6.685165E+003	2.213503E+003	1.593149E+003	5.287679E+001	0.000000E+000	0.000000E+000	2.443935E-004		
Cs-136	1.926276E+003	6.378100E+002	4.590582E+002	1.523602E+001	0.000000E+000	0.000000E+000	7.042010E-005		
Cs-137	3.425190E+003	1.134103E+003	8.162609E+002	2.709179E+001	0.000000E+000	0.000000E+000	1.252167E-004		
Cs-138	8.476729E-001	2.825760E-001	2.033862E-001	6.706948E-003	0.000000E+000	0.000000E+000	3.101386E-008		
Ba-139	5.914381E+001	1.960523E+001	1.411081E+001	4.470725E-001	0.000000E+000	0.000000E+000	2.044143E-006		
Ba-140	3.641565E+003	1.203999E+003	8.665680E+002	2.752329E+001	0.000000E+000	0.000000E+000	1.258216E-004		
La-140	3.306277E+001	1.093230E+001	7.868429E+000	2.498926E-001	0.000000E+000	0.000000E+000	1.142379E-006		
La-141	7.908382E+000	2.617128E+000	1.883661E+000	5.977505E-002	0.000000E+000	0.000000E+000	2.732767E-007		
La-142	7.798585E-001	2.584477E-001	1.860170E-001	5.894937E-003	0.000000E+000	0.000000E+000	2.695288E-008		
Ce-141	8.538301E+001	2.822972E+001	2.031809E+001	6.453327E-001	0.000000E+000	0.000000E+000	2.950109E-006		
Ce-143	6.884071E+001	2.276282E+001	1.638334E+001	5.203072E-001	0.000000E+000	0.000000E+000	2.378578E-006		
Ce-144	6.726367E+001	2.223893E+001	1.600627E+001	5.083849E-001	0.000000E+000	0.000000E+000	2.324058E-006		
Pr-143	3.154409E+001	1.042932E+001	7.506410E+000	2.384132E-001	0.000000E+000	0.000000E+000	1.089896E-006		
Nd-147	1.403699E+001	4.641017E+000	3.340332E+000	1.060930E-001	0.000000E+000	0.000000E+000	4.849959E-007		
Np-238	2.654471E+001	8.776919E+000	6.317112E+000	2.006281E-001	0.000000E+000	0.000000E+000	9.171664E-007		
Np-239	1.116591E+003	3.691943E+002	2.657245E+002	8.439323E+000	0.000000E+000	0.000000E+000	3.858015E-005		
Pu-238	3.568445E-001	1.179810E-001	8.491580E-002	2.697063E-003	0.000000E+000	0.000000E+000	1.232950E-008		
Pu-239	2.572313E-002	8.504657E-003	6.121153E-003	1.944177E-004	0.000000E+000	0.000000E+000	8.887717E-010		
Pu-240	3.896131E-002	1.288150E-002	9.271351E-003	2.944731E-004	0.000000E+000	0.000000E+000	1.346170E-009		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.8477779E-001	6.230864E-002	4.484610E-002	1.046726E-003	0.000000E+000	0.000000E+000	2.706986E-009
Co-60	2.222016E-001	7.492795E-002	5.392874E-002	1.258722E-003	0.000000E+000	0.000000E+000	3.255239E-009
Br-82E	1.367914E+001	8.342800E+000	5.561870E+000	1.173229E+000	0.000000E+000	1.750846E+004	5.821152E-006
Br-82O	6.669455E+001	1.219114E+002	8.127428E+001	1.564096E+001	0.000000E+000	5.414986E+002	7.242415E-007
Br-82P	1.894975E+001	6.398632E+000	4.605361E+000	1.095775E-001	0.000000E+000	3.429491E+005	2.852502E-007
Br-83E	9.684432E+000	5.919306E+000	3.946236E+000	8.306430E-001	0.000000E+000	1.239542E+004	4.121817E-006
Br-83O	4.721964E+001	8.651098E+001	5.767445E+001	1.107990E-001	0.000000E+000	3.833635E+002	5.130283E-007
Br-83P	1.341592E+001	4.540235E+000	3.267811E+000	7.758796E-002	0.000000E+000	2.427969E+005	2.019932E-007
Br-84E	8.057062E-005	4.965308E-005	3.310326E-005	6.911604E-006	0.000000E+000	1.031233E-001	3.431115E-011
Br-84O	3.929070E-004	7.261134E-004	4.840932E-004	9.238767E-007	0.000000E+000	3.189379E-003	4.277248E-012
Br-84P	1.116167E-004	3.809569E-005	2.741966E-005	6.458253E-007	0.000000E+000	2.019940E+000	1.681903E-012
Kr-85	3.848945E+005	6.757296E+005	4.504864E+005	6.876955E+002	0.000000E+000	0.000000E+000	3.109525E-001
Kr-85m	1.404417E+006	2.468864E+006	1.645917E+006	2.510293E+003	0.000000E+000	0.000000E+000	1.135023E+000
Kr-87	2.309881E+004	4.074098E+004	2.716107E+004	4.132929E+001	0.000000E+000	0.000000E+000	1.868501E-002
Kr-88	1.176328E+006	2.069467E+006	1.379654E+006	2.103086E+003	0.000000E+000	0.000000E+000	9.508827E-001
Rb-86	7.621045E+000	2.573663E+000	1.852372E+000	4.427554E-002	0.000000E+000	0.000000E+000	1.154261E-007
Sr-89	2.696862E+002	9.094051E+001	6.545364E+001	1.527712E+000	0.000000E+000	0.000000E+000	3.950886E-006
Sr-90	3.061249E+001	1.032275E+001	7.429708E+000	1.734129E-001	0.000000E+000	0.000000E+000	4.484710E-007
Sr-91	1.455262E+002	4.910230E+001	3.534100E+001	8.244023E-001	0.000000E+000	0.000000E+000	2.132075E-006
Sr-92	1.684769E+001	5.693282E+000	4.097709E+000	9.545023E-002	0.000000E+000	0.000000E+000	2.468687E-007
Y-90	2.773012E-001	9.351634E-002	6.730758E-002	1.970857E-003	0.000000E+000	0.000000E+000	4.062479E-009
Y-91	3.438226E+000	1.159399E+000	8.344672E-001	1.947678E-002	0.000000E+000	0.000000E+000	5.036980E-008
Y-92	3.480741E-001	1.175647E-001	8.461646E-002	1.971949E-003	0.000000E+000	0.000000E+000	5.100071E-009
Y-93	1.843278E+000	6.219186E-001	4.476210E-001	1.044210E-002	0.000000E+000	0.000000E+000	2.700539E-008
Zr-95	4.502905E+000	1.518417E+000	1.092867E+000	2.550795E-002	0.000000E+000	0.000000E+000	6.596729E-008
Zr-97	2.712517E+000	9.149945E-001	6.585598E-001	1.536611E-002	0.000000E+000	0.000000E+000	3.973953E-008
Nb-95	4.497073E+000	1.516455E+000	1.091456E+000	2.547492E-002	0.000000E+000	0.000000E+000	6.588187E-008
Mo-99	5.498388E+001	1.854258E+001	1.334586E+001	3.114730E-001	0.000000E+000	0.000000E+000	8.055171E-007
Tc-99m	1.363820E+001	4.603321E+000	3.313206E+000	7.726169E-002	0.000000E+000	0.000000E+000	1.998174E-007
Ru-103	5.439680E+001	1.834310E+001	1.320228E+001	3.081458E-001	0.000000E+000	0.000000E+000	7.969100E-007
Ru-105	6.131299E+000	2.070209E+000	1.490019E+000	3.473507E-002	0.000000E+000	0.000000E+000	8.983448E-008
Ru-106	2.387781E+001	8.051771E+000	5.795192E+000	1.352624E-001	0.000000E+000	0.000000E+000	3.498083E-007
Rh-105	2.961984E+001	9.989648E+000	7.189965E+000	1.677913E-001	0.000000E+000	0.000000E+000	4.339355E-007
Sb-125	1.348773E+001	4.548157E+000	3.273497E+000	7.640495E-002	0.000000E+000	0.000000E+000	1.975943E-007
Sb-127	4.956577E+002	1.671497E+002	1.203046E+002	2.807800E+000	0.000000E+000	0.000000E+000	7.261396E-006
Sb-129	3.396476E+001	1.146820E+001	8.254162E+000	1.924175E-001	0.000000E+000	0.000000E+000	4.976450E-007
Te-127	3.220296E+001	1.086574E+001	7.820531E+000	1.824291E-001	0.000000E+000	0.000000E+000	4.717994E-007
Te-127m	1.040364E+001	3.508187E+000	2.524987E+000	5.893428E-002	0.000000E+000	0.000000E+000	1.524126E-007
Te-129	1.677123E-001	5.683611E-002	4.090772E-002	9.503283E-004	0.000000E+000	0.000000E+000	2.458164E-009
Te-129m	4.783717E+001	1.613115E+001	1.161025E+001	2.709870E-001	0.000000E+000	0.000000E+000	7.008119E-007
Te-131m	7.658697E+001	2.583027E+001	1.859112E+001	4.38525E-001	0.000000E+000	0.000000E+000	1.122014E-006
Te-132	8.532183E+002	2.877325E+002	2.070930E+002	4.833311E+000	0.000000E+000	0.000000E+000	1.249968E+005
Te-133m	5.994438E-002	2.034053E-002	1.464011E-002	3.396953E-004	0.000000E+000	0.000000E+000	8.787156E-010
Te-134	7.611946E-003	2.588072E-003	1.862775E-003	4.314072E-005	0.000000E+000	0.000000E+000	1.116040E-010
I-131E	2.345821E+003	1.430512E+003	9.536750E+002	2.011953E+002	0.000000E+000	3.002507E+006	9.982541E-004
I-131O	1.143735E+004	2.090354E+004	1.393570E+004	2.682157E+001	0.000000E+000	9.286102E+004	1.241952E-004
I-131P	3.249671E+003	1.097147E+003	7.896624E+002	1.879119E+001	0.000000E+000	5.881198E+007	4.891660E-005
I-132E	9.107539E+001	5.567381E+001	3.711619E+001	7.811640E+000	0.000000E+000	1.165703E+005	3.876316E-005
I-132O	4.440691E+002	8.136830E+002	5.424599E+002	1.042022E+000	0.000000E+000	3.605268E+003	4.248298E-006
I-132P	1.261675E+002	4.270319E+001	3.073541E+001	7.296666E-001	0.000000E+000	2.283336E+006	1.899630E-006
I-133E	3.280518E+003	2.000983E+003	1.333990E+003	2.813632E+002	0.000000E+000	4.198860E+006	1.396034E-003
I-133O	1.599465E+004	2.924013E+004	1.949344E+004	3.751113E+001	0.000000E+000	1.298616E+005	1.736918E-004
I-133P	4.544512E+003	1.534689E+003	1.104580E+003	2.627896E+001	0.000000E+000	8.224570E+007	6.840918E-005
I-134E	3.981576E-001	2.443493E-001	1.629031E-001	3.415275E-002	0.000000E+000	5.096106E+002	1.695078E-007
I-134O	1.941490E+000	3.572222E+000	2.381534E+000	4.560331E-003	0.000000E+000	1.576115E+001	2.111422E-008
I-134P	5.515745E-001	1.874471E-001	1.349153E-001	3.190674E-003	0.000000E+000	9.982064E+003	8.307982E-009
I-135E	1.286269E+003	7.850292E+002	5.233544E+002	1.103217E+002	0.000000E+000	1.646343E+006	5.473971E-004
I-135O	6.271462E+003	1.147202E+004	7.648036E+003	1.471019E+001	0.000000E+000	5.091781E+004	6.811359E-005
I-135P	1.781874E+003	6.021039E+002	4.333598E+002	1.030417E+001	0.000000E+000	3.224795E+007	2.682436E-005
Xe-133	5.036869E+007	8.843255E+007	5.895504E+007	8.999560E+004	0.000000E+000	0.000000E+000	4.069289E+001
Xe-135	8.545325E+006	1.501206E+007	1.000806E+007	1.527104E+004	0.000000E+000	0.000000E+000	6.904906E+000
Cs-134	8.621493E+002	2.911482E+002	2.095514E+002	5.008774E+000	0.000000E+000	0.000000E+000	1.305784E-005
Cs-136	2.464631E+002	8.323220E+001	5.990565E+001	1.431862E+000	0.000000E+000	0.000000E+000	3.732858E-006
Cs-137	4.417859E+002	1.491913E+002	1.073791E+002	2.566616E+000	0.000000E+000	0.000000E+000	6.691150E-006
Cs-138	9.553518E-004	3.261147E-004	2.347235E-004	5.553670E-006	0.000000E+000	0.000000E+000	1.448445E-011
Ba-139	1.233250E+000	4.175848E-001	3.005556E-001	6.987766E-003	0.000000E+000	0.000000E+000	1.807429E-008
Ba-140	4.658103E+002	1.570775E+002	1.130551E+002	2.638714E+000	0.000000E+000	0.000000E+000	6.824102E-006
La-140	4.003481E+000	1.350196E+000	9.717918E-001	2.267901E-002	0.000000E+000	0.000000E+000	5.865155E-008
La-141	5.313028E-001	1.794246E-001	1.291397E-001	3.009971E-003	0.000000E+000	0.000000E+000	7.784671E-009
La-142	1.928224E-002	6.526543E-003	4.697459E-003	1.092534E-004	0.000000E+000	0.000000E+000	2.825866E-010
Ce-141	1.097707E+001	3.701573E+000	2.664175E+000	6.218268E-002	0.000000E+000	0.000000E+000	1.608133E-007
Ce-143	8.222803E+000	2.773271E+000	1.996038E+000	4.658081E-002	0.000000E+000	0.000000E+000	1.204656E-007
Ce-144	8.672618E+000	2.924471E+000	2.104862E+000	4.912844E-002	0.000000E+000	0.000000E+000	1.270533E-007
Pr-143	4.036985E+000	1.361324E+000	9.798011E-001	2.286864E-002	0.000000E+000	0.000000E+000	5.914167E-008
Nd-147	1.793136E+000	6.046713E-001	4.352069E-001	1.015773E-002	0.000000E+000	0.000000E+000	2.626938E-008
Np-238	3.256606E+000	1.098275E+000	7.904743E-001	1.844807E-002	0.000000E+000	0.000000E+000	4.770959E-008
Np-239	1.376825E+002	4.643226E+001	3.341922E+001	7.799453E-001	0.000000E+000	0.000000E+000	2.017068E-006
Pu-238	4.602661E-002	1.552050E-002	1.117074E-002	2.607305E-004	0.000000E+000	0.000000E+000	6.742869E-010
Pu-239	3.317838E-003	1.118798E-003	8.052454E-004	1.879481E-005	0.000000E+000	0.000000E+000	4.860611E-011
Pu-240	5.025334E-003	1.694578E-003	1.219658E-003	2.846739E-005	0.000000E+000	0.000000E+000	7.362082E-011
Pu-241	1.347935E+000	4.545331E-001	3.271462E-001	7.635747E-003	0.000000E+000	0.000000E+000	1.974715E-008
Am-241	6.927126E-004	2.335876E-004	1.681226E-004	3.924062E-006	0.000000E+000	0.000000E+000	1.014819E-011
Cm-242	2.102795E-001	7.090783E-002	5.103529E-002	1.191186E-003	0.000000E+000	0.000000E+000	3.080581E-009
Cm-244	4.447515E-002	1.499734E-002	1.079420E-002	2.519418E-004	0.000000E+000	0.000000E+000	6.515580E-010

Time = 69840.000000 Seconds  
CPU ClockTime = 117.110000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	34.60269	85.62285	5.50881	40.11150	12.91218 ending at	12721.0 Sec
LPZ	3.63174	10.54991	0.70553	4.33728		
ControlRoom	1.05407	31.23658	1.83340	2.88747		

Br-84P	1.441622E-010	4.028553E-011	2.899582E-011	5.826174E-013	0.000000E+000	1.265053E-004	1.310765E-018
Kr-85	3.821514E+005	6.748918E+005	4.499279E+005	6.841574E+002	0.000000E+000	0.000000E+000	2.737947E-001
Kr-85m	4.437889E+005	7.855235E+005	5.236846E+005	7.950751E+002	0.000000E+000	0.000000E+000	3.181745E-001
Kr-87	4.040862E+002	7.193567E+002	4.795784E+002	7.252607E-001	0.000000E+000	0.000000E+000	2.902158E-004
Kr-88	1.918986E+005	3.401126E+005	2.267433E+005	3.439405E+002	0.000000E+000	0.000000E+000	1.376365E-001
Rb-86	1.553175E-001	4.259586E-002	3.065800E-002	6.274451E-004	0.000000E+000	0.000000E+000	1.411482E-009
Sr-89	5.536103E+000	1.516038E+000	1.091155E+000	2.225811E-002	0.000000E+000	0.000000E+000	4.997625E-008
Sr-90	6.310630E-001	1.728124E-001	1.243802E-001	2.537211E-003	0.000000E+000	0.000000E+000	5.696812E-009
Sr-91	1.748386E+000	4.792934E-001	3.449677E-001	7.029956E-003	0.000000E+000	0.000000E+000	1.578479E-008
Sr-92	5.232659E-002	1.438281E-002	1.035195E-002	2.104343E-004	0.000000E+000	0.000000E+000	4.725310E-010
Y-90	5.276808E-003	1.445247E-003	1.040204E-003	2.121582E-005	0.000000E+000	0.000000E+000	4.763616E-011
Y-91	7.062046E-002	1.933908E-002	1.391914E-002	2.839322E-004	0.000000E+000	0.000000E+000	6.375144E-010
Y-92	1.684933E-003	4.627265E-004	3.330445E-004	6.775648E-006	0.000000E+000	0.000000E+000	1.521443E-011
Y-93	2.298155E-002	6.299583E-003	4.534075E-003	9.240436E-005	0.000000E+000	0.000000E+000	2.074809E-010
Zr-95	9.251789E-002	2.533558E-002	1.823506E-002	3.719716E-004	0.000000E+000	0.000000E+000	8.351898E-010
Zr-97	4.120583E-002	1.129073E-002	8.126413E-003	1.656763E-004	0.000000E+000	0.000000E+000	3.719991E-010
Nb-95	9.214219E-002	2.523283E-002	1.816111E-002	3.704612E-004	0.000000E+000	0.000000E+000	8.317986E-010
Mo-99	1.048665E+000	2.872140E-001	2.067198E-001	4.216239E-003	0.000000E+000	0.000000E+000	9.466776E-009
Tc-99m	1.197533E-001	3.284881E-002	2.364269E-002	4.815272E-004	0.000000E+000	0.000000E+000	1.081219E-009
Ru-103	1.115302E+000	3.054214E-001	2.198244E-001	4.484114E-003	0.000000E+000	0.000000E+000	1.006821E-008
Ru-105	3.981242E-002	1.092720E-002	7.864781E-003	1.600920E-004	0.000000E+000	0.000000E+000	3.594748E-010
Ru-106	4.919580E-001	1.347196E-001	9.696327E-002	1.977935E-003	0.000000E+000	0.000000E+000	4.441067E-009
Rh-105	5.282485E-001	1.446986E-001	1.041456E-001	2.123883E-003	0.000000E+000	0.000000E+000	4.768797E-009
Sb-125	2.779901E-001	7.612579E-002	5.479087E-002	1.117669E-003	0.000000E+000	0.000000E+000	2.509508E-009
Sb-127	9.664810E+000	2.646934E+000	1.905108E+000	3.885800E-002	0.000000E+000	0.000000E+000	8.724828E-008
Sb-129	2.182396E-001	5.990086E-002	4.311324E-002	8.775771E-004	0.000000E+000	0.000000E+000	1.970536E-009
Te-127	3.846780E-001	1.054548E-001	7.590028E-002	1.546725E-003	0.000000E+000	0.000000E+000	3.472957E-009
Te-127m	2.140506E-001	5.861656E-002	4.218876E-002	8.605980E-004	0.000000E+000	0.000000E+000	1.932305E-009
Te-129	4.153210E-005	1.147278E-005	8.257519E-006	1.670804E-007	0.000000E+000	0.000000E+000	3.752242E-013
Te-129m	9.799091E-001	2.683450E-001	1.931390E-001	3.939762E-003	0.000000E+000	0.000000E+000	8.845971E-009
Te-131m	1.347671E+000	3.691659E-001	2.657040E-001	5.418473E-003	0.000000E+000	0.000000E+000	1.216622E-008
Te-132	1.647294E+001	4.511590E+000	3.247178E+000	6.623063E-002	0.000000E+000	0.000000E+000	1.487084E-007
Te-133m	4.779080E-006	1.323118E-006	9.523152E-007	1.922881E-008	0.000000E+000	0.000000E+000	4.318576E-014
I-131E	2.268130E+003	1.391367E+003	9.275779E+002	1.955416E+002	0.000000E+000	2.922606E+006	8.030299E-008
I-131O	1.105855E+004	2.033152E+004	1.355435E+004	2.601490E+001	0.000000E+000	9.038987E+004	1.066752E-004
I-131P	6.523455E+001	1.788622E+001	1.287345E+001	2.632973E-001	0.000000E+000	5.724692E+007	5.920965E-007
I-132E	9.534355E+000	5.873844E+000	3.915929E+000	8.220207E-001	0.000000E+000	1.228546E+004	3.376207E-006
I-132O	4.648799E+001	8.584731E+001	5.723202E+001	1.094822E-001	0.000000E+000	3.799628E+002	4.489294E-007
I-132P	2.742224E-001	7.551715E-002	5.435310E-002	1.107135E-003	0.000000E+000	2.406431E+005	2.489958E-009
I-133E	2.545439E+003	1.562141E+003	1.041428E+003	2.194502E+002	0.000000E+000	3.279932E+006	9.012264E-008
I-133O	1.241067E+004	2.282738E+004	1.521827E+004	2.919888E+001	0.000000E+000	1.014412E+005	1.197311E-004
I-133P	7.321039E+001	2.008176E+001	1.445368E+001	2.954977E-001	0.000000E+000	6.424610E+007	6.645150E-007
I-134E	1.137519E-003	7.056653E-004	4.704539E-004	9.808052E-005	0.000000E+000	1.465735E+000	4.029177E-010
I-134O	5.546755E-003	1.031635E-002	6.877719E-003	1.308641E-005	0.000000E+000	4.533201E-002	5.365909E-011
I-134P	3.271698E-005	9.073956E-006	6.530991E-006	1.321542E-007	0.000000E+000	2.871028E+001	2.972659E-013
I-135E	5.850455E+002	3.594127E+002	2.396092E+002	5.043915E+001	0.000000E+000	7.538611E+005	2.071470E-004
I-135O	2.852506E+003	5.252276E+003	3.501527E+003	6.712938E+000	0.000000E+000	2.331529E+004	2.752655E-005
I-135P	1.682674E+001	4.620470E+000	3.325549E+000	6.792232E-002	0.000000E+000	1.476635E+007	1.527475E-007
Xe-133	4.801478E+007	8.480249E+007	5.653501E+007	8.596201E+004	0.000000E+000	0.000000E+000	3.440133E+001
Xe-135	4.828947E+006	8.537594E+006	5.691742E+006	8.648207E+003	0.000000E+000	0.000000E+000	3.460902E+000
Cs-134	1.776815E+001	4.872811E+000	3.507163E+000	7.177890E-002	0.000000E+000	0.000000E+000	1.614716E-007
Cs-136	4.998983E+000	1.370985E+000	9.867545E-001	2.019469E-002	0.000000E+000	0.000000E+000	4.542939E-008
Cs-137	9.107228E+000	2.497603E+000	1.797628E+000	3.679093E-002	0.000000E+000	0.000000E+000	8.276376E-008
Ba-139	6.449351E-004	1.778940E-004	1.280388E-004	2.594263E-006	0.000000E+000	0.000000E+000	5.825914E-012
Ba-140	9.443043E+000	2.586000E+000	1.861251E+000	3.796617E-002	0.000000E+000	0.000000E+000	8.524570E-008
La-140	7.266178E-002	1.990294E-002	1.432497E-002	2.921442E-004	0.000000E+000	0.000000E+000	6.559568E-010
La-141	2.939948E-003	8.071737E-004	5.809580E-004	1.182225E-005	0.000000E+000	0.000000E+000	2.654619E-011
La-142	1.421780E-005	3.919077E-006	2.820744E-006	5.718872E-008	0.000000E+000	0.000000E+000	1.284261E-013
Ce-141	2.248088E-001	6.156320E-002	4.430958E-002	9.038524E-004	0.000000E+000	0.000000E+000	2.029425E-009
Ce-143	1.451923E-001	3.977207E-002	2.862561E-002	5.837627E-004	0.000000E+000	0.000000E+000	1.310735E-009
Ce-144	1.786516E-001	4.892262E-002	3.521163E-002	7.182750E-004	0.000000E+000	0.000000E+000	1.612746E-009
Pr-143	8.192189E-002	2.243447E-002	1.614701E-002	3.293705E-004	0.000000E+000	0.000000E+000	7.395379E-010
Nd-147	3.625288E-002	9.927993E-003	7.145587E-003	1.457564E-004	0.000000E+000	0.000000E+000	3.272678E-010
Np-238	6.068817E-002	1.662236E-002	1.196380E-002	2.440022E-004	0.000000E+000	0.000000E+000	5.478620E-010
Np-239	2.592081E+000	7.099512E-001	5.109813E-001	1.042168E-002	0.000000E+000	0.000000E+000	2.339995E-008
Pu-238	9.488310E-004	2.598311E-004	1.870112E-004	3.814808E-006	0.000000E+000	0.000000E+000	8.565408E-012
Pu-239	6.839714E-005	1.873010E-005	1.348083E-005	2.749931E-007	0.000000E+000	0.000000E+000	6.174434E-013
Pu-240	1.035971E-004	2.836939E-005	2.041862E-005	4.165158E-007	0.000000E+000	0.000000E+000	9.352051E-013
Pu-241	2.778650E-002	7.609151E-003	5.476620E-003	1.117166E-004	0.000000E+000	0.000000E+000	2.508379E-010
Am-241	1.428023E-005	3.910547E-006	2.814582E-006	5.741417E-008	0.000000E+000	0.000000E+000	1.289123E-013
Cm-242	4.329219E-003	1.185531E-003	8.532756E-004	1.740578E-005	0.000000E+000	0.000000E+000	3.908128E-011
Cm-244	9.168243E-004	2.510663E-004	1.807028E-004	3.686124E-006	0.000000E+000	0.000000E+000	8.276474E-012

Time = 86400.000000 Seconds

CPU ClockTime = 142.430000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	36.59830	87.84187	5.57720	42.17550	12.91218 ending at	12721.0 Sec
LPZ	3.78142	10.63550	0.70817	4.48958		
ControlRoom	1.10173	32.16353	1.86196	2.96369		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.667150E-004	8.167345E-005	5.878376E-005	1.335470E-006	0.000000E+000	0.000000E+000	2.912883E-012
Co-60	4.430712E-004	9.867850E-005	7.102299E-005	1.613537E-006	0.000000E+000	0.000000E+000	3.519392E-012
Br-82E	1.068412E+001	6.580216E+000	4.386813E+000	9.248998E-001	0.000000E+000	1.382458E+004	3.776677E-006
Br-82O	5.209189E+001	9.615514E+001	6.410346E+001	1.227891E-001	0.000000E+000	4.275642E+002	5.017466E-007
Br-82P	2.985977E-002	6.660528E-003	4.793859E-003	1.088705E-004	0.000000E+000	2.707907E+005	2.375833E-010
Br-83E	2.991751E-001	1.851566E-001	1.234387E-001	2.590006E-002	0.000000E+000	3.871122E+002	1.057704E-007
Br-83O	1.458727E+000	2.706074E+000	1.840464E+000	3.442795E-003	0.000000E+000	1.197254E+001	1.406793E-008
Br-83P	8.361323E-004	1.874367E-004	1.349066E-004	3.049548E-006	0.000000E+000	7.582610E+003	6.655576E-012
Kr-85	3.804561E+005	6.743715E+005	4.495810E+005	6.819491E+002	0.000000E+000	0.000000E+000	2.719537E-001
Kr-85m	2.168538E+005	3.854811E+005	2.569885E+005	3.890554E+002	0.000000E+000	0.000000E+000	1.551469E-001
Kr-87	3.267480E+001	5.850424E+001	3.900342E+001	5.875764E-002	0.000000E+000	0.000000E+000	2.342969E-005
Kr-88	6.216870E+004	1.106942E+005	7.379663E+004	1.115953E+002	0.000000E+000	0.000000E+000	4.450111E-002
Rb-86	1.491930E-002	3.327705E-003	2.395086E-003	5.441023E-005	0.000000E+000	0.000000E+000	1.187496E-010
Sr-89	5.341754E-001	1.189700E-001	8.562761E-002	1.945313E-003	0.000000E+000	0.000000E+000	4.243052E-006
Sr-90	6.190979E-001	3.368402E-001	2.226297E-001	2.226297E-002	0.000000E+000	0.000000E+000	4.605951E-006
Sr-91	1.209197E-001	2.966689E-002	1.940921E-002	4.039291E-004	0.000000E+000	0.000000E+000	6.605951E-010
Sr-92	1.560884E-003	3.492767E-004	2.513900E-004	5.685987E-006	0.000000E+000	0.000000E+000	1.240329E-011
Y-90	4.857173E-004	1.081980E-004	7.787457E-005	1.768864E-006	0.000000E+000	0.000000E+000	3.858202E-012
Y-91	8.161572E-003	1.518165E-003	1.092686E-003	2.482399E-005	0.000000E+000	0.000000E+000	5.414526E-011
Y-92	6.622707E-005	1.480314E-005	1.065447E-005	2.412349E-007	0.000000E+000	0.000000E+000	5.262128E-013
Y-93	1.626457E-003	3.626904E-004	2.610436E-004	5.923553E-006	0.000000E+000	0.000000E+000	1.292059E-011
Zr-95	8.931949E-003	1.989293E-003	1.431776E-003	3.252758E-005	0.000000E+000	0.000000E+000	7.094808E-011

Zr-97	3.297278E-003	7.349118E-004	5.289467E-004	1.200831E-005	0.000000E+000	0.000000E+000	2.619253E-011
Nb-95	8.880356E-003	1.977816E-003	1.423516E-003	3.233971E-005	0.000000E+000	0.000000E+000	7.053831E-011
Mo-99	9.666280E-002	2.153241E-002	1.549776E-002	3.520222E-004	0.000000E+000	0.000000E+000	7.678220E-010
Tc-99m	6.815590E-003	1.521167E-003	1.094849E-003	2.482374E-005	0.000000E+000	0.000000E+000	5.414709E-011
Ru-103	1.075338E-002	2.394969E-002	1.723758E-002	3.916073E-004	0.000000E+000	0.000000E+000	8.541607E-010
Ru-105	1.878289E-003	4.195296E-004	3.019536E-004	6.841431E-006	0.000000E+000	0.000000E+000	1.492319E-011
Ru-106	4.757677E-002	1.059606E-002	7.626424E-003	1.732608E-004	0.000000E+000	0.000000E+000	3.779106E-010
Rh-105	4.670282E-002	1.040517E-002	7.489030E-003	1.700820E-004	0.000000E+000	0.000000E+000	3.709799E-010
Sb-125	2.689019E-002	5.988844E-003	4.310418E-003	9.792627E-005	0.000000E+000	0.000000E+000	2.135935E-010
Sb-127	9.032121E-001	2.011865E-001	1.448023E-001	3.289265E-003	0.000000E+000	0.000000E+000	7.174454E-009
Sb-129	1.022921E-002	2.284829E-003	1.644490E-003	3.725868E-005	0.000000E+000	0.000000E+000	8.127226E-011
Te-127	2.650981E-002	5.912165E-003	4.255235E-003	9.654935E-005	0.000000E+000	0.000000E+000	2.105961E-010
Te-127m	2.068277E-002	4.606381E-003	3.315403E-003	7.532069E-005	0.000000E+000	0.000000E+000	1.642869E-010
Te-129m	9.442574E-002	2.103034E-002	1.513640E-002	3.438715E-004	0.000000E+000	0.000000E+000	7.500411E-010
Te-131m	1.181590E-001	2.632614E-002	1.894802E-002	4.303116E-004	0.000000E+000	0.000000E+000	9.385887E-010
Te-132	1.530011E+000	3.408116E-001	2.452962E-001	5.571912E-003	0.000000E+000	0.000000E+000	1.215331E-008
I-131E	2.221137E+003	1.367575E+003	9.117166E+002	1.922783E+002	0.000000E+000	2.874013E+006	7.851319E-004
I-131O	1.082944E+004	1.998386E+004	1.332257E+004	2.552484E+001	0.000000E+000	8.888700E+004	1.043009E-004
I-131P	6.207592E+000	1.384257E+000	9.963072E-001	2.263284E-002	0.000000E+000	5.629510E+007	4.939032E-008
I-132E	2.344412E+000	1.451332E+000	9.675630E-001	2.029599E-001	0.000000E+000	3.033508E+003	8.288506E-007
I-132O	1.143098E+001	2.121149E+001	1.414111E+001	2.698059E-002	0.000000E+000	9.381983E+001	1.102479E-007
I-132P	6.552145E-003	1.469214E-003	1.057460E-003	2.389746E-005	0.000000E+000	5.941923E+004	5.215601E-011
I-133E	2.174065E+003	1.393912E+003	8.928752E+002	1.882044E+002	0.000000E+000	2.813104E+006	7.685060E-004
I-133O	1.059998E+004	1.957120E+004	1.304748E+004	2.498748E+001	0.000000E+000	8.700321E+004	1.021050E-004
I-133P	6.076039E+000	1.355665E+000	9.757289E-001	2.215396E-002	0.000000E+000	5.510203E+007	4.834585E-008
I-134E	2.981902E-005	1.862281E-005	1.241548E-005	2.581692E-006	0.000000E+000	3.858347E-002	1.054527E-011
I-134O	1.454031E-004	2.722529E-004	1.815059E-004	3.439827E-007	0.000000E+000	1.193303E-003	1.405544E-012
I-134P	8.333855E-008	1.885595E-008	1.357159E-008	3.041322E-010	0.000000E+000	7.557586E-001	6.638892E-016
I-135E	3.585144E+002	2.211475E+002	1.474321E+002	3.103622E+001	0.000000E+000	4.638946E+005	1.267358E-004
I-135O	1.748009E+003	3.231737E+003	2.154498E+003	4.121998E+000	0.000000E+000	1.434725E+004	1.684343E-005
I-135P	1.001971E+000	2.238543E-001	1.611175E-001	3.653613E-003	0.000000E+000	9.086595E+006	7.973376E-009
Xe-133	4.660732E+007	8.262147E+007	5.508099E+007	8.354407E+004	0.000000E+000	0.000000E+000	3.331641E+001
Xe-135	3.886626E+006	6.011364E+006	4.007585E+006	6.073094E+003	0.000000E+000	0.000000E+000	2.421851E+000
Cs-134	1.718650E+000	3.833289E-001	2.758976E-001	2.667852E-003	0.000000E+000	0.000000E+000	1.367950E-008
Cs-136	4.787614E-001	1.067875E-001	7.685939E-002	1.46029E-003	0.000000E+000	0.000000E+000	3.810687E-009
Cs-137	8.810545E-001	1.965109E-001	1.414370E-001	2.231717E-003	0.000000E+000	0.000000E+000	7.012703E-009
Ba-139	6.356311E-006	1.428676E-006	1.028286E-006	2.316129E-008	0.000000E+000	0.000000E+000	5.052821E-014
Ba-140	9.040834E-001	2.013611E-001	1.449279E-001	3.292418E-003	0.000000E+000	0.000000E+000	7.181317E-009
La-140	6.494463E-003	1.446872E-003	1.041374E-003	2.365142E-005	0.000000E+000	0.000000E+000	5.158802E-011
La-141	1.255742E-004	2.805911E-005	2.019536E-005	4.573398E-007	0.000000E+000	0.000000E+000	9.977327E-013
Ce-141	2.166007E-002	4.824095E-003	3.472100E-003	7.887976E-005	0.000000E+000	0.000000E+000	1.720499E-010
Ce-143	1.275721E-002	2.842315E-003	2.045732E-003	4.645918E-005	0.000000E+000	0.000000E+000	1.013360E-010
Ce-144	1.727531E-002	3.847473E-003	2.769185E-003	6.291168E-005	0.000000E+000	0.000000E+000	1.372208E-010
Pr-143	7.848198E-003	1.747978E-003	1.258092E-003	2.858093E-005	0.000000E+000	0.000000E+000	6.233981E-011
Nd-147	3.465051E-003	7.717552E-004	5.554641E-004	1.261875E-005	0.000000E+000	0.000000E+000	2.752361E-011
Np-238	5.514060E-003	1.228372E-003	8.841099E-004	2.008093E-005	0.000000E+000	0.000000E+000	4.380006E-011
Np-239	2.370120E-001	5.279802E-002	3.800092E-002	8.631414E-004	0.000000E+000	0.000000E+000	1.882664E-009
Pu-238	9.179285E-005	2.044362E-005	1.471412E-005	3.342829E-007	0.000000E+000	0.000000E+000	7.291266E-013
Pu-239	6.616978E-006	1.473698E-006	1.060682E-006	2.409711E-008	0.000000E+000	0.000000E+000	5.255981E-014
Pu-240	1.002235E-005	2.232124E-006	1.606552E-006	3.649848E-008	0.000000E+000	0.000000E+000	7.960924E-014
Pu-241	2.688096E-003	5.986785E-004	4.308937E-004	9.789264E-006	0.000000E+000	0.000000E+000	2.135201E-011
Am-241	1.381518E-006	3.076845E-007	2.214532E-007	5.031089E-009	0.000000E+000	0.000000E+000	1.097364E-014
Cm-242	4.184821E-004	9.320243E-005	6.708164E-005	1.523991E-006	0.000000E+000	0.000000E+000	3.324077E-012
Cm-244	8.869501E-005	1.975369E-005	1.421754E-005	3.230015E-007	0.000000E+000	0.000000E+000	7.045199E-013

Time = 259200.000000 Seconds

CPU ClockTime = 423.100000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	47.95694	107.23970	6.17131	54.12825	12.91218 ending at	12721.0 Sec
LPZ	4.16004	11.06041	0.72118	4.88122		
ControlRoom	1.20959	35.35589	1.95974	3.16934		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.434236E-004	8.200700E-005	5.467133E-005	4.395473E-007	0.000000E+000	0.000000E+000	3.866565E-013
Co-60	4.228300E-004	1.009675E-004	6.731166E-005	5.411789E-007	0.000000E+000	0.000000E+000	4.760587E-013
Br-82E	3.976102E+000	2.545081E+000	1.696722E+000	3.592933E-001	0.000000E+000	5.373631E+003	9.382760E-007
Br-82O	1.938603E+001	3.719066E+001	2.479379E+001	4.663199E-002	0.000000E+000	1.661948E+002	1.218967E-007
Br-82P	1.111234E-002	2.658185E-003	1.772124E-003	1.422442E-005	0.000000E+000	1.052567E+005	1.251274E-011
Br-83E	2.724777E-007	1.757656E-007	1.171780E-007	2.462322E-008	0.000000E+000	3.682471E-004	6.430946E-014
Br-83O	1.328555E-006	2.568824E-006	1.712563E-006	3.202502E-009	0.000000E+000	1.138909E-005	8.372032E-015
Br-83P	7.615184E-010	1.835964E-010	1.223986E-010	9.752858E-013	0.000000E+000	7.213088E-003	8.580299E-019
Kr-85	3.632085E+005	6.689633E+005	4.459756E+005	6.594430E+002	0.000000E+000	0.000000E+000	1.682292E-001
Kr-85m	1.232681E+002	2.280631E+002	1.520427E+002	2.241506E-001	0.000000E+000	0.000000E+000	5.718480E-005
Kr-88	4.850045E-001	8.996653E-001	5.997809E-001	8.827175E-004	0.000000E+000	0.000000E+000	2.252019E-007
Rb-86	1.322731E-002	3.163310E-003	2.108873E-003	1.693120E-005	0.000000E+000	0.000000E+000	1.489387E-011
Sr-89	4.963313E-001	1.185208E-001	7.901387E-002	6.352538E-004	0.000000E+000	0.000000E+000	5.588137E-010
Sr-90	5.829583E-002	1.392045E-002	9.280297E-003	7.461267E-005	0.000000E+000	0.000000E+000	6.563451E-011
Sr-91	3.479434E-003	8.326201E-004	5.550812E-004	4.453949E-006	0.000000E+000	0.000000E+000	3.918120E-012
Y-90	2.759930E-004	6.592504E-005	4.395004E-005	3.532500E-007	0.000000E+000	0.000000E+000	3.107447E-013
Y-91	6.357399E-003	1.518103E-003	1.012069E-003	8.136826E-006	0.000000E+000	0.000000E+000	7.157720E-012
Y-93	5.951629E-005	1.424003E-005	9.493368E-006	7.618477E-008	0.000000E+000	0.000000E+000	6.701928E-014
Zr-95	8.347320E-003	1.993280E-003	1.328854E-003	1.068372E-005	0.000000E+000	0.000000E+000	9.398148E-012
Zr-97	4.345852E-004	1.038992E-004	6.926623E-005	5.562689E-007	0.000000E+000	0.000000E+000	4.893411E-013
Nb-95	8.151152E-003	1.946458E-003	1.297639E-003	1.043265E-005	0.000000E+000	0.000000E+000	9.177293E-012
Mo-99	5.573684E-002	1.331346E-002	8.875641E-003	7.133888E-005	0.000000E+000	0.000000E+000	6.275492E-011
Tc-99m	2.566113E-005	6.148225E-006	4.098830E-006	3.285096E-008	0.000000E+000	0.000000E+000	2.889935E-014
Ru-103	9.913313E-002	2.367248E-002	1.578165E-002	1.268804E-004	0.000000E+000	0.000000E+000	1.116129E-010
Ru-106	4.526724E-002	1.080938E-002	7.206251E-003	5.793743E-005	0.000000E+000	0.000000E+000	5.096580E-011
Rh-105	1.742497E-002	4.163276E-003	2.775519E-003	2.230301E-005	0.000000E+000	0.000000E+000	1.961944E-011
Sb-125	2.564492E-002	6.123747E-003	4.082498E-003	3.282286E-005	0.000000E+000	0.000000E+000	2.887327E-011
Sb-127	6.011853E-001	1.435883E-001	9.572556E-002	7.694666E-004	0.000000E+000	0.000000E+000	6.768786E-010
Sb-129	5.080235E-006	1.218685E-006	8.124602E-007	6.504168E-009	0.000000E+000	0.000000E+000	5.721885E-015
Te-127	7.349152E-004	1.758674E-004	1.172452E-004	9.407504E-007	0.000000E+000	0.000000E+000	8.275744E-013
Te-127m	1.950251E-002	4.657034E-003	3.104689E-003	2.496122E-005	0.000000E+000	0.000000E+000	2.957673E-011
Te-129m	8.653206E-002	2.066348E-002	1.377566E-002	1.107523E-004	0.000000E+000	0.000000E+000	9.147250E-011
Te-131m	4.041118E-002	9.655788E-003	6.437196E-003	5.172431E-005	0.000000E+000	0.000000E+000	4.550070E-011
Te-132	9.500333E-001	2.281110E-001	1.520740E-001	1.223266E-003	0.000000E+000	0.000000E+000	1.075282E-009
I-131E	1.785243E+003	1.142198E+003	7.161465E+002	1.613198E-002	0.000000E+000	2.412725E+006	4.212756E-004
I-131O	8.704180E+003	1.669051E+004	1.112701E+004	2.093479E+001	0.000000E+000	7.462036E+004	5.472366E-005
I-131P	4.989364E+000	1.192950E+000	7.952999E-001	6.386391E-003	0.000000E+000	4.725956E+000	5.617923E-009
I-132E	1.029355E-006	6.642905E-007	4.428641E-007	9.302089E-008	0.000000E+000	1.391149E-003	2.429480E-013
I-132O	5.018972E-006	9.708727E-006	6.472539E-006	1.209975E-008	0.000000E+000	4.302523E-005	3.163151E-014
I-132P	2.876385E-009	6.938904E-010	4.625975E-010	6.684506E-012	0.000000E+000	2.749313E-002	3.241548E-011

I-133E	4.193658E+002	2.685394E+002	1.790264E+002	3.789534E+001	0.000000E+000	5.667654E+005	9.896230E-005
I-133O	2.044680E+003	3.924134E+003	2.616092E+003	4.918887E+000	0.000000E+000	1.752883E+004	1.285810E-005
I-133P	1.172036E+000	2.804749E-001	1.869834E-001	1.500294E-003	0.000000E+000	1.110159E+007	1.319781E-009
I-135E	2.163744E+000	1.388422E+000	9.256174E-001	1.955261E-001	0.000000E+000	2.924258E+003	5.106244E-007
I-135O	1.054977E+001	2.028970E+001	1.352650E+001	2.539388E-002	0.000000E+000	9.044096E+001	6.638163E-008
I-135P	6.047199E-003	1.450173E-003	9.667852E-004	7.741954E-006	0.000000E+000	5.727927E+004	8.106548E-012
Xe-133	3.416867E+007	6.294249E+007	4.196167E+007	6.204017E+004	0.000000E+000	0.000000E+000	1.582696E+001
Xe-135	8.354527E+004	1.542169E+005	1.028115E+005	1.518000E+002	0.000000E+000	0.000000E+000	3.872611E-002
Cs-134	1.638303E+000	3.917827E-001	2.611885E-001	2.097051E-003	0.000000E+000	0.000000E+000	1.844712E-009
Cs-136	4.115049E-001	9.841317E-002	6.560878E-002	5.267342E-004	0.000000E+000	0.000000E+000	4.633525E-010
Cs-137	8.413045E-001	2.011888E-001	1.341259E-001	1.076882E-003	0.000000E+000	0.000000E+000	9.473000E-010
Ba-140	7.744496E-001	1.849428E-001	1.232952E-001	9.912203E-004	0.000000E+000	0.000000E+000	8.719473E-010
La-140	2.714889E-003	6.486126E-004	4.324086E-004	3.474895E-006	0.000000E+000	0.000000E+000	3.056781E-012
Ce-141	1.982166E-002	4.733330E-003	3.155554E-003	2.536973E-005	0.000000E+000	0.000000E+000	2.231699E-011
Ce-143	4.461545E-003	1.066020E-003	7.106807E-004	5.710551E-006	0.000000E+000	0.000000E+000	5.023441E-012
Ce-144	1.641782E-002	3.920418E-003	2.613612E-003	2.101313E-005	0.000000E+000	0.000000E+000	1.848461E-011
Pr-143	6.767185E-003	1.616034E-003	1.077356E-003	8.661337E-006	0.000000E+000	0.000000E+000	7.619122E-012
Nd-147	2.916636E-003	6.965160E-004	4.643441E-004	3.733013E-006	0.000000E+000	0.000000E+000	3.283822E-012
Np-238	2.735795E-003	6.535393E-004	4.356930E-004	3.501629E-006	0.000000E+000	0.000000E+000	3.080294E-012
Np-239	1.256388E-001	3.001196E-002	2.000798E-002	1.608085E-004	0.000000E+000	0.000000E+000	1.415591E-010
Pu-238	8.765872E-005	2.093200E-005	1.395467E-005	1.121942E-007	0.000000E+000	0.000000E+000	9.869380E-014
Pu-239	6.319238E-006	1.508969E-006	1.005979E-006	8.087976E-009	0.000000E+000	0.000000E+000	7.114747E-015
Pu-240	9.571373E-006	2.85546E-006	1.523697E-006	1.225037E-008	0.000000E+000	0.000000E+000	1.077628E-014
Pu-241	2.566465E-003	6.128455E-004	4.085637E-004	3.284811E-006	0.000000E+000	0.000000E+000	2.889549E-012
Am-241	1.319344E-006	3.150457E-007	2.100305E-007	1.688624E-009	0.000000E+000	0.000000E+000	1.485432E-015
Cm-242	3.962633E-004	9.462409E-005	6.308273E-005	5.071765E-007	0.000000E+000	0.000000E+000	4.461478E-013
Cm-244	8.468631E-005	2.022222E-005	1.348148E-005	1.083898E-007	0.000000E+000	0.000000E+000	9.534720E-014

Time = 345600.000000 Seconds  
CPU ClockTime = 567.990000 Seconds

	EAB	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
	LPZ	51.82793	115.23965	6.41536	58.24328	12.91218 ending at	12721.0 Sec
ControlRoom	4.28907	11.23564	0.72653	5.01560	3.24380		
	1.24501	36.63600	1.99879				
Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	3.323386E-004	8.089625E-005	5.393083E-005	4.258730E-007	0.000000E+000	0.000000E+000	1.387930E-014
Co-60	4.130588E-004	1.005434E-004	6.702893E-005	5.293109E-007	0.000000E+000	0.000000E+000	1.725036E-014
Br-82E	2.425587E+000	1.582823E+000	1.055216E+000	2.239394E-001	0.000000E+000	3.350239E+003	5.848039E-007
Br-82O	1.182629E+001	2.312941E+001	1.541962E+001	2.874178E-002	0.000000E+000	1.036156E+002	7.509403E-008
Br-82P	6.778987E-003	1.653164E-003	1.102110E-003	8.687927E-006	0.000000E+000	6.562324E+004	2.831437E-013
Br-83P	7.267468E-013	1.788799E-013	1.192542E-013	9.319786E-016	0.000000E+000	7.035136E-006	3.637690E-023
Kr-85	3.548802E+005	6.662755E+005	4.441837E+005	6.485500E+002	0.000000E+000	0.000000E+000	1.053410E-001
Kr-85m	2.938952E+000	5.547292E+000	3.698211E+000	5.380889E-003	0.000000E+000	0.000000E+000	1.371871E-006
Kr-88	1.354668E-003	2.564833E-003	1.709900E-003	2.482890E-006	0.000000E+000	0.000000E+000	6.330376E-010
Rb-86	1.245470E-002	3.036216E-003	2.024144E-003	1.596151E-005	0.000000E+000	0.000000E+000	5.201893E-013
Sr-89	4.784269E-001	1.164570E-001	7.763800E-002	6.130771E-004	0.000000E+000	0.000000E+000	1.998032E-011
Sr-90	5.696547E-002	1.386606E-002	9.244042E-003	7.299794E-005	0.000000E+000	0.000000E+000	2.379019E-012
Sr-91	5.902206E-004	1.440281E-004	9.601896E-005	7.564609E-007	0.000000E+000	0.000000E+000	2.465395E-014
Y-90	2.080440E-004	5.065922E-005	3.377282E-005	2.666030E-007	0.000000E+000	0.000000E+000	8.688687E-015
Y-91	6.139545E-003	1.494462E-003	9.963084E-004	7.867479E-006	0.000000E+000	0.000000E+000	2.564029E-013
Y-93	1.138499E-005	2.777734E-006	1.851826E-006	1.459149E-008	0.000000E+000	0.000000E+000	4.755528E-016
Zr-95	8.069516E-003	1.964245E-003	1.309497E-003	1.034063E-005	0.000000E+000	0.000000E+000	3.370034E-013
Zr-97	1.577737E-004	3.845859E-005	2.563909E-005	2.021971E-007	0.000000E+000	0.000000E+000	6.589757E-015
Nb-95	7.809322E-003	1.900934E-003	1.267290E-003	1.000721E-005	0.000000E+000	0.000000E+000	3.261373E-013
Mo-99	4.232372E-002	1.030582E-002	6.870548E-003	5.423670E-005	0.000000E+000	0.000000E+000	1.767593E-012
Tc-99m	1.574570E-006	3.847944E-007	2.565304E-007	2.018258E-009	0.000000E+000	0.000000E+000	6.577850E-017
Ru-103	9.518219E-002	2.316905E-002	1.544603E-002	1.219707E-004	0.000000E+000	0.000000E+000	3.975052E-012
Ru-106	4.415486E-002	1.074784E-002	7.165226E-003	5.658190E-005	0.000000E+000	0.000000E+000	1.844017E-012
Rh-105	1.064355E-002	2.592512E-003	1.728342E-003	1.363970E-005	0.000000E+000	0.000000E+000	4.445244E-013
Sb-125	2.504407E-002	6.096026E-003	4.064018E-003	3.209253E-005	0.000000E+000	0.000000E+000	1.045903E-012
Sb-127	4.904759E-001	1.194185E-001	7.961235E-002	6.285272E-004	0.000000E+000	0.000000E+000	2.048390E-011
Te-127	1.223637E-004	2.986050E-005	1.990704E-005	1.568287E-007	0.000000E+000	0.000000E+000	5.112315E-015
Te-127m	1.893787E-002	4.609742E-003	3.073161E-003	2.426780E-005	0.000000E+000	0.000000E+000	7.908930E-013
Te-129m	8.283623E-002	2.016390E-002	1.344260E-002	1.061500E-004	0.000000E+000	0.000000E+000	3.459454E-012
Te-131m	2.363300E-002	5.756790E-003	3.837863E-003	3.028582E-005	0.000000E+000	0.000000E+000	9.870299E-013
Te-132	7.545371E-001	1.837192E-001	1.224795E-001	9.669151E-004	0.000000E+000	0.000000E+000	3.151209E-011
I-131E	1.600510E+003	1.043846E+003	6.958974E+002	1.477646E+002	0.000000E+000	2.210637E+006	3.858757E-004
I-131O	7.803490E+003	1.525333E+004	1.016889E+004	1.896223E+001	0.000000E+000	6.837021E+004	4.954258E-005
I-131P	4.473075E+000	1.090228E+000	7.268186E-001	5.732466E-003	0.000000E+000	4.330113E+007	1.868226E-010
I-132P	1.906253E-012	4.694469E-013	3.129672E-013	2.444662E-015	0.000000E+000	1.845312E-005	7.968176E-023
I-133E	1.841846E+002	1.202462E+002	8.016418E+001	1.700466E+001	0.000000E+000	2.543971E+005	4.440689E-005
I-133O	8.980193E+002	1.757143E+003	1.171429E+003	2.182762E+000	0.000000E+000	7.867950E+003	5.702957E-006
I-133P	5.147558E-001	1.255906E-001	8.372715E-002	6.597302E-004	0.000000E+000	4.983035E+006	2.150104E-011
I-135E	1.680953E-001	1.100123E-001	7.334175E-002	1.551946E-002	0.000000E+000	2.321741E+002	4.052957E-008
I-135O	8.195821E-001	1.607664E+000	1.071779E+000	1.993449E-003	0.000000E+000	7.180643E+009	5.208468E-009
I-135P	4.697902E-004	1.149052E-004	7.660370E-005	6.022012E-007	0.000000E+000	4.547740E+003	1.962670E-014
Xe-133	2.925600E+007	5.493757E+007	3.662505E+007	5.346936E+004	0.000000E+000	0.000000E+000	1.363148E+001
Xe-135	1.312197E+004	2.470083E+004	1.646726E+004	2.400238E+001	0.000000E+000	0.000000E+000	6.119308E-003
Cs-134	1.599550E+000	3.899192E-001	2.599461E-001	2.049920E-003	0.000000E+000	0.000000E+000	6.680735E-011
Cs-136	3.815073E-001	9.300623E-002	6.200415E-002	4.889273E-004	0.000000E+000	0.000000E+000	1.593426E-011
Cs-137	8.221072E-001	2.004033E-001	1.336022E-001	1.053580E-003	0.000000E+000	0.000000E+000	3.433641E-011
Ba-140	7.167794E-001	1.744861E-001	1.163241E-001	9.185159E-004	0.000000E+000	0.000000E+000	2.993466E-011
La-140	1.755321E-003	4.275191E-004	2.850128E-004	2.249431E-006	0.000000E+000	0.000000E+000	7.330997E-014
Ce-141	1.896182E-002	4.615670E-003	3.077113E-003	2.429852E-005	0.000000E+000	0.000000E+000	7.918944E-013
Ce-143	2.638458E-003	6.426946E-004	4.284633E-004	3.381194E-006	0.000000E+000	0.000000E+000	1.101948E-013
Ce-144	1.600517E-002	3.895859E-003	2.597240E-003	2.050970E-005	0.000000E+000	0.000000E+000	6.684157E-013
Pr-143	6.283868E-003	1.529679E-003	1.019786E-003	8.052451E-006	0.000000E+000	0.000000E+000	2.624314E-013
Nd-147	2.675892E-003	6.514024E-004	4.342683E-004	3.429021E-006	0.000000E+000	0.000000E+000	1.117527E-013
Np-238	1.927035E-003	4.692834E-004	3.128557E-004	2.469461E-006	0.000000E+000	0.000000E+000	8.048072E-014
Np-239	9.147456E-002	2.227539E-002	1.485026E-002	1.172226E-004	0.000000E+000	0.000000E+000	3.820331E-012
Pu-238	8.566201E-005	2.085114E-005	1.390076E-005	1.097709E-007	0.000000E+000	0.000000E+000	3.577457E-015
Pu-239	6.175430E-006	1.503172E-006	1.002115E-006	7.913455E-009	0.000000E+000	0.000000E+000	2.579012E-016
Pu-240	9.353554E-006	2.276764E-006	1.517843E-006	1.198604E-008	0.000000E+000	0.000000E+000	3.906275E-016
Pu-241	2.507729E-003	6.104107E-004	4.069405E-004	3.213509E-006	0.000000E+000	0.000000E+000	1.474290E-013
Am-241	1.289314E-006	3.138340E-007	2.092227E-007	1.652180E-009	0.000000E+000	0.000000E+000	5.384492E-017
Cm-242	3.856002E-004	9.386018E-005	6.257345E-005	4.941245E-007	0.000000E+000	0.000000E+000	1.610363E-014
Cm-244	8.275042E-005	2.014242E-005	1.342828E-005	1.060399E-007	0.000000E+000	0.000000E+000	3.455862E-014

	WholeBody	Thyroid	Inhalation	TEDE	Sliding 2-Hour Window	
EAB	66.31904	188.27264	8.63946	74.95850	12.91218 ending at	12721.0 Sec
LPZ	4.45813	11.79556	0.74358	5.20171		
ControlRoom	1.31730	42.97368	2.19178	3.50908		

Isotope	Drywell	Sprayed	Unsprayed	SecCont	MSIVVol	SuppPool	ControlRoom
Co-58	1.755825E-004	5.965867E-005	3.977245E-005	1.449251E-007	0.000000E+000	0.000000E+000	3.836216E-015
Co-60	2.788647E-004	9.474502E-005	6.316334E-005	2.301727E-007	0.000000E+000	0.000000E+000	6.092748E-015
Br-82E	7.898494E-006	7.213769E-006	4.809182E-006	1.026842E-006	0.000000E+000	1.549115E-002	2.178728E-012
Br-82O	3.851020E-005	1.054131E-004	7.027543E-005	7.874497E-008	0.000000E+000	4.791077E-004	1.671166E-013
Br-82P	2.207457E-008	7.534350E-009	5.022903E-009	1.822597E-011	0.000000E+000	3.034349E-001	4.824513E-019
Kr-85	2.407314E+005	6.308493E+005	4.205662E+005	2.904324E+002	0.000000E+000	0.000000E+000	6.014295E-002
Rb-86	3.229347E-003	1.099076E-003	7.327174E-004	2.665794E-006	0.000000E+000	0.000000E+000	7.056452E-014
Sr-89	2.282124E-001	7.754326E-002	5.169550E-002	1.883660E-004	0.000000E+000	0.000000E+000	4.986112E-012
Sr-90	3.875461E-002	1.316696E-002	8.777970E-003	3.198774E-005	0.000000E+000	0.000000E+000	8.467264E-013
Y-91	3.074632E-003	1.044701E-003	6.964674E-004	2.537791E-006	0.000000E+000	0.000000E+000	6.717621E-014
Zr-95	4.149926E-003	1.410055E-003	9.400365E-004	3.425333E-006	0.000000E+000	0.000000E+000	9.066975E-014
Nb-95	3.178683E-003	1.080118E-003	7.200785E-004	2.623685E-006	0.000000E+000	0.000000E+000	6.944986E-014
Mo-99	4.087372E-005	1.391221E-005	9.274808E-006	3.374110E-008	0.000000E+000	0.000000E+000	8.931421E-016
Ru-103	4.099179E-002	1.392881E-002	9.285873E-003	3.383459E-005	0.000000E+000	0.000000E+000	8.956134E-013
Ru-106	2.866938E-002	9.740602E-003	6.493735E-003	2.366349E-005	0.000000E+000	0.000000E+000	6.263806E-013
Sb-125	1.676422E-002	5.695703E-003	3.797136E-003	1.383706E-005	0.000000E+000	0.000000E+000	3.662716E-013
Sb-127	3.060848E-003	1.041283E-003	6.941890E-004	2.526628E-006	0.000000E+000	0.000000E+000	6.688089E-014
Te-127m	1.093891E-002	3.716684E-003	2.477789E-003	9.028913E-006	0.000000E+000	0.000000E+000	2.389984E-013
Te-129m	3.301631E-002	1.121902E-002	7.479346E-003	2.725167E-005	0.000000E+000	0.000000E+000	7.213613E-013
Te-132	2.043035E-003	6.951902E-004	4.634603E-004	1.686485E-006	0.000000E+000	0.000000E+000	4.464197E-014
I-131E	1.159381E+002	1.055944E+002	7.039630E+001	1.507244E+001	0.000000E+000	2.273871E+005	3.198011E-005
I-131O	5.652712E+002	1.543012E+003	1.028675E+003	1.155139E+000	0.000000E+000	7.032591E+003	2.451481E-006
I-131P	3.240217E-001	1.102864E-001	7.352426E-002	2.674783E-004	0.000000E+000	4.453974E+006	7.080252E-012
I-133E	1.168964E-007	1.070153E-007	7.134362E-008	1.519716E-008	0.000000E+000	2.292664E-004	3.224514E-014
I-133O	5.699457E-007	1.563802E-006	1.042536E-006	1.166034E-009	0.000000E+000	7.090713E-006	2.474628E-015
I-133P	3.267000E-010	1.117717E-010	7.451455E-011	2.697860E-013	0.000000E+000	4.490785E-003	7.141421E-021
Xe-133	6.409991E+005	1.681372E+006	1.120915E+006	7.736061E+002	0.000000E+000	0.000000E+000	1.601992E-001
Cs-134	1.064311E+000	3.621331E-001	2.414221E-001	8.785628E-004	0.000000E+000	0.000000E+000	2.325585E-011
Cs-136	6.610143E-002	2.249948E-002	1.499965E-002	5.456651E-005	0.000000E+000	0.000000E+000	1.444395E-012
Cs-137	5.593276E-001	1.903106E-001	1.268738E-001	4.617109E-004	0.000000E+000	0.000000E+000	1.222164E-011
Ba-140	1.188416E-001	4.039248E-002	2.692832E-002	9.809356E-005	0.000000E+000	0.000000E+000	2.596572E-012
Ce-141	7.421712E-003	2.521928E-003	1.681285E-003	6.125886E-006	0.000000E+000	0.000000E+000	1.621543E-013
Ce-144	1.023782E-002	3.478378E-003	2.318919E-003	8.450222E-006	0.000000E+000	0.000000E+000	2.236802E-013
Pr-143	1.134761E-003	3.856791E-004	2.571194E-004	9.366462E-007	0.000000E+000	0.000000E+000	2.479337E-014
Nd-147	3.532605E-004	1.200756E-004	8.005037E-005	2.915876E-007	0.000000E+000	0.000000E+000	7.718430E-015
Np-239	2.959886E-005	1.007764E-005	6.718426E-006	2.443426E-008	0.000000E+000	0.000000E+000	6.467864E-016
Pu-238	5.834344E-005	1.982229E-005	1.321486E-005	4.815620E-008	0.000000E+000	0.000000E+000	1.274711E-015
Pu-239	4.208375E-006	1.429803E-006	9.532019E-007	3.473558E-009	0.000000E+000	0.000000E+000	9.194626E-017
Pu-240	6.374138E-006	2.165625E-006	1.443750E-006	5.261161E-009	0.000000E+000	0.000000E+000	1.392647E-016
Pu-241	1.703102E-003	5.786324E-004	3.857550E-004	1.405726E-006	0.000000E+000	0.000000E+000	3.721005E-014
Cm-242	2.352390E-004	7.992532E-005	5.328355E-005	1.941648E-007	0.000000E+000	0.000000E+000	5.139607E-015
Cm-244	5.623858E-005	1.910717E-005	1.273812E-005	4.641887E-008	0.000000E+000	0.000000E+000	1.228723E-015

**Attachment 6**

**Design Basis Fuel Handling Accident  
Radiological Analysis with Revised Source Terms  
XC-Q1111-98019, Revision 1**

<b>DESIGN ENGINEERING CALCULATION</b> <b>GRAND GULF NUCLEAR STATION</b> <b>UNIT ONE</b>		<b>CALC NO.:</b> <u>XC-Q1111-98019</u> <b>REVISION:</b> <u>1</u> <b>PAGE</b> <u>i</u> <b>of</b> <u>iii</u>	
<b>TITLE:</b> <u>Design Basis Fuel Handling Accident Radiological Analysis with Revised Source Terms</u>			
<b>REVISION STATUS</b> <input type="checkbox"/> Pending <input checked="" type="checkbox"/> Final <input type="checkbox"/> Canceled	<b>SUPERSEDED BY:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<b>SUPERSEDES:</b> <input checked="" type="checkbox"/> N/A Calc. _____ Rev.: _____	<input checked="" type="checkbox"/> Safety Related <input type="checkbox"/> Non Safety Related <input type="checkbox"/> Appendix B
<b>ORG CODE:</b> <u>NPE-Safety Analysis</u>		<b>CALC TYPE</b> <u>NUCSAFE</u>	
<b>KEYWORD(S):</b> <u>ACCIDENT</u> <u>DOSE</u>		<b>AFFECTED COMPONENT(S):</b> (add sheets as needed) <u>N/A</u>	
<b>SYSTEM(s):</b> <u>N/A</u>		<b>COMMENT(s):</b> <u>N/A</u>	
<b>SOFTWARE USED FOR CALCULATION:</b> <div style="display: flex; justify-content: flex-end; align-items: center;"> <input type="checkbox"/> Yes           <input checked="" type="checkbox"/> No         </div>			
Software Manufacturer: _____	Software Name/ Program No: _____	Version/ Release No: _____	
<b>REVIEW AND APPROVAL</b>			
<b>PREPARED BY:</b> <u>G.E. Broadbent</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>9/27/00</u>	
<b>CHECKED BY:</b> <u>Marvyn Morris</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/4/00</u>	
<b>REVIEWED BY:</b> <u>M. D. Withrow</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Supervisor Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/16/00</u>	
<b>APPROVED BY:</b> <u>M. D. Withrow</u> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>Responsible Manager Signature</span> <span>Name</span> </div>		<b>DATE:</b> <u>10/16/00</u>	

**REVISION STATUS SHEET****ENGINEERING CALCULATION REVISION SUMMARY**

<b><u>REVISION</u></b>	<b><u>DATE</u></b>	<b><u>DESCRIPTION</u></b>
0	8/26/99	Issue for use
1	10/16/00	Revised for $\chi/Q$ values per CR-GGN-2000-0847, RG 1.183 gap release fractions, pool DF value, and iodine re-evolution considerations

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**SHEET REVISION STATUS**

<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>	<b><u>SHEET NO.</u></b>	<b><u>REVISION</u></b>
i	1	7	1	16	1
ii	1	8	1	17	1
iii	1	9	1	18	1
1	1	10	1	19	1
2	1	11	1	20	1
3	1	12	1	21	1
4	1	13	1	22	1
5	1	14	1	23	1
6	1	15	1	24	1
				25	1

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**APPENDIX/ATTACHMENT REVISION STATUS**

<b><u>APPENDIX NO.</u></b>	<b><u>REVISION</u></b>	<b><u>ATTACHMENT NO.</u></b>	<b><u>REVISION</u></b>
A	1	1	1
B	1	2	1

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## CALCULATION SHEET

Sheet 1 Cont On 2

Calculation No. XC-Q1111-98019

Rev. 1

Prepared By J.E.B. Date 9/27/00 Checked By MAM Date 10/4/00

### 1.0 INTRODUCTION

This calculation applies the NUREG-1465 [1] revised source terms to the fuel handling accidents that are postulated to occur at Grand Gulf to ensure that the radiological consequences of the worst-case fuel handling accidents are within the appropriate acceptance criteria. This calculation considers the following relaxations to the current plant design and requirements.

- No secondary containment requirements while moving irradiated fuel or performing core alterations
- No control room isolation or envelope requirements
- No control room fresh air system

Revision 1 of this calculation applies the assumptions in recent Staff guidance for gap release fractions, gap chemical species, and pool pH considerations. This revision also applies revised  $\chi/Q$  values calculated in response to CR-GGN-2000-0847. Confirmatory calculations with the most recent version of a new GGNS dose code are also performed.

### 2.0 BACKGROUND

The current design basis fuel handling accident is reported in Calculation XC-Q1J11-96005 [2] using the original offsite dose acceptance criteria of 25 rem thyroid and 6 rem whole body based on the Standard Review Plan Section 15.7.4 [3]. In addition, the requirements of 10CFR50, Appendix A, General Design Criterion 19 were applied in the control room. The release fractions and timing, iodine species distribution, and pool decontamination factors in Reg. Guide 1.25 [4] were also applied.

This analysis updates the fuel handling accident for the impact of the NUREG-1465 revised source terms. The changes from the current calculation are listed below.

- Consistent with Regulatory Guide 1.183 [37], an offsite dose limit of 6.3 rem TEDE is applied instead of the SRP 15.7.4 values of 25% of 10CFR100.
- Consistent with 10CFR50.67, a control room dose limit of 5 rem TEDE is applied instead of the GDC 19 criteria of 5 rem whole body or its equivalent to any part of the body for the duration of the accident.
- The RG 1.183 assumptions for values of gap fractions, pool decontamination factors, and gap iodine species are applied instead of the Reg. Guide 1.25 pool DF values. The impact of pool pH is also considered in this revision.
- Updated control room and EAB  $\chi/Q$  values are applied.
- Secondary containment is neglected for drops of irradiated fuel and during core alterations.
- No control room isolation or envelope control is assumed.
- The control room fresh air system is not credited.

Conservatisms in this calculation include the following.



## CALCULATION SHEET

Sheet 2 Cont On 3

Calculation No. XC-Q1111-98019

Rev. 1

Prepared By J.E.B. Date 9/27/00 Checked By MAM Date 10/4/00

1. All failed fuel is assumed to have been operating at high peaking factors and maximum exposures although the core operating limits on power density would prohibit high-exposure bundles from being at high peaking factors.
2. Rod failures are conservatively overestimated by neglecting lateral support of the fuel channel for the dropped bundle and applying a methodology in which each struck rod only receives enough impact energy for clad failure.
3. Meteorological dispersion factors bound those generated from the GGNS met data.



## CALCULATION SHEET

Sheet 3 Cont On 4Calculation No. XC-Q1111-98019Rev. 1Prepared By L.E.B. Date 9/27/00 Checked By MAW Date 10/4/00

### 3.0. GIVEN

This calculation applies the acceptable assumptions and requirements in RG 1.183, Appendix A 10CFR50, and RG 1.25. The following sections describe how these requirements are addressed in this analysis considering the impacts of the revised source term.

#### 3.1 Regulatory Guide 1.183 Compliance

##### 3.1.1 Section 4.1 of RG 1.183

This calculation applies an offsite dose calculation methodology consistent with that described in Section 4.1 of RG 1.183.

1. This calculation generates the resulting doses in terms of TEDE. The impact of daughter products is considered by decaying the source terms in ORIGIN for the applicable decay time before the release. No decay of the fission products is conservatively assumed during residence in the containment or Auxiliary Building, during transport to the environment, or in the control room. Section 3.4 describes the source term assumptions in more detail.
2. This calculation applies the inhalation dose conversion factors from Federal Guidance Report 11 [16]. In most cases, these DCFs are taken directly from FGR 11; however, in some cases, the DCFs applied in this calculation include the DCFs of the isotope's decay products consistent with RADTRAD as noted in NUREG/CR-6604 [15] Table 1.4.3.3-2. These values are reported in Table 3-1.
3. This calculation applies the recommended breathing rates. Considering the 2-hour release, an offsite breathing rate of  $3.5\text{E-}4 \text{ m}^3/\text{s}$  is applied.
4. This calculation applies the EDE dose conversion factors from Federal Guidance Report 12 [17]. These values are reported in Table 3-1. As described above, some of these DCFs include the DCFs of the isotope's decay products.
5. This calculation considers the impact of a 2-hour sliding EAB window; however, since the release duration is only two hours, the worst-case window is the initial 2-hour period. Consequently, no 2-hour sliding window calculations are performed.
6. This calculation does not assess the LPZ dose since it is bounded by the EAB dose due to the 2-hour release duration and the lower  $\chi/Q$  for the LPZ. Since the EAB and LPZ have the same acceptance criteria, compliance with the EAB criteria will ensure compliance with the LPZ criteria.
7. The dispersion factors for this calculation do not consider depletion of the effluent plume for ground (or any other) deposition.



## CALCULATION SHEET

Sheet 4 Cont On 5Calculation No. XC-Q1111-98019Rev. 1Prepared By J.E.B. Date 9/27/00 Checked By MAM Date 10/4/00**Table 3-1 Dose Conversion Factors**

Isotope	Whole Body (Rem-m <sup>3</sup> /Ci-s)	Inhalation (Rem/Ci)	Isotope	Whole Body (Rem-m <sup>3</sup> /Ci-s)	Inhalation (Rem/Ci)
BR 82	4.810000E-01	1.528100E+03	KR 85M	2.767600E-02	0.000000E+00
BR 83	1.413400E-03	8.917000E+01	KR 88	3.774000E-01	0.000000E+00
I130	3.848000E-01	2.641800E+03	XE129M	3.922000E-03	0.000000E+00
I131	6.734000E-02	3.289300E+04	XE131M	1.439300E-03	0.000000E+00
I132	4.144000E-01	3.811000E+02	XE133	5.772000E-03	0.000000E+00
I133	1.087800E-01	5.846000E+03	XE133M	5.069000E-03	0.000000E+00
I135	3.068780E-01	1.228400E+03	XE135	4.403000E-02	0.000000E+00
KR 83M	5.550000E-06	0.000000E+00	XE135M	7.548000E-02	0.000000E+00
KR 85	4.403000E-04	0.000000E+00			

### 3.1.2 Section 4.2 of RG 1.183

This calculation applies a control room dose calculation methodology consistent with that described in Section 4.2 of RG 1.183.

1. This calculation considers all potential radiation sources to the control room operators. Intake of the radiation plume from the control room ventilation intake is the only mode of contamination of the control room atmosphere. Although the Auxiliary Building is located adjacent to the control room, infiltration from this area is neglected since (i) there are no doors between the Control Building and the Auxiliary Building, (ii) all penetrations in the wall between the control room envelope and Auxiliary Building are sealed and protected from radiation shine, and (iii) the pressure differential between these areas is either negligible or negative (i.e., lower in the Auxiliary Building). The control room dose due to radiation shine from the Auxiliary Building or the external radioactive plume is negligible. The GGNS control room is separated from the Auxiliary Building atmosphere by 5 feet of concrete (32 feet for the control building wall [46] and 3 feet for the Auxiliary Building wall [47]). The side walls and roof of the control room are 2 feet thick concrete [46,48]. Considering this shielding, the contribution to the control room dose due to radiation shine from the Auxiliary Building atmosphere and release plume is neglected.
2. The control room dose calculation applies the same source term, transport, and release assumptions as the offsite dose calculation. The only additional parameter applied in the control room calculation is the activity release rate which is assumed to be constant over the release duration as described in Appendix A.
3. The model used to determine the control room dose is based on an analytical solution to the governing equations and provides suitably conservative results as described in Appendix A.
4. This calculation does not credit any Engineered Safety Feature in the control room evaluation. No reliance is placed on control room isolation or atmospheric cleanup.
5. No credit is taken for personal protective equipment or prophylactic drugs.

J.E.B.  
10/4/00



## CALCULATION SHEET

Sheet 5 Cont On 6Calculation No. XC-Q1111-98019Rev. 1Prepared By J.E.B. Date 9/27/00 Checked By MAM Date 10/4/00

6. This calculation applies the recommended occupancy factor and breathing rate. An occupancy factor and breathing rate of 1.0 and  $3.5\text{E-}4 \text{ m}^3/\text{s}$  respectively are applied in the control room evaluation.
7. The control room calculation applies the same dose conversion factors as the offsite dose calculation. The recommended semi-infinite to finite cloud dose conversion factor is also applied to the EDE calculation as described in Appendix A.

### 3.1.3 Section 4.4 of RG 1.183

This calculation applies the acceptance criteria in Table 6 of RG 1.183 and 10CFR50.67 for the offsite and control room doses respectively. This calculation also applies the 2-hour release duration from Table 6 of RG 1.183.

### 3.1.4 Section 5.3 of RG 1.183

Although a 2-hour release is assumed, plant procedures [52] would call for the isolation of containment and secondary containment resulting in a more protracted release period. A 2-hour release assumption would be consistent with the source terms being vented from the release area rather than diffusing through cracks or seals. For example, a drop in containment with 50% mixing in the containment volume would be completely exhausted by the SGTS flow of 4000 cfm in approximately 175 minutes. In addition, procedures [44] are in place to quickly close any open doors or equipment hatches in the secondary containment boundary and to direct the release through the available SGTS train. The primary release point for this release is therefore the SGTS louvers, although no credit will be taken for the SGTS charcoal beds in this path.

In the event of a source term release in the containment, a limited amount of source terms can be released to the environment before the containment ventilation system is automatically isolated by the high radiation in the system ductwork. Since this partial release is from a point closer to the control room intake than the SGTS louver (per A-1107 [38]), the impact of this fractional release will be considered in the assumed control room dispersion factor.

Since TRM Table TR3.3.6.1-1 does not report a required response time for the instrumentation response time of the Containment and Drywell Ventilation Exhaust radiation monitor, a bounding value of 10 seconds will be applied for this calculation. TRM Table TR3.6.1.3-1 requires that the maximum isolation time of the Containment and Drywell Area Ventilation supply and exhaust dampers to be 4 seconds. However, for the purposes of this analysis, this isolation time is increased to 110 seconds. Therefore, the maximum total response time for complete isolation of the ventilation exhaust is 120 seconds. If the travel time from the detector to the isolation valve is conservatively neglected, a release directly from the containment atmosphere to the environment would exist for 120 seconds. Reference 12 indicates that this flowrate is 6000 cfm. Section 15.3.3 of NUREG-0831 [45] also credits a 6000 cfm flowrate for the containment ventilation system. With a containment volume of  $1.4\text{E}6 \text{ ft}^3$  and 50% mixing in the containment, the fraction of activity released via the containment ventilation louver is determined below to be 1.71%. No credit is taken for the non-safety charcoal beds in the containment ventilation release path.

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Containment volume containing fission products  $(1.4 \cdot 10^6 \text{ ft}^3)(50\%) = 7.0 \cdot 10^5 \text{ ft}^3$

Volume released in 120 seconds  $(120 \text{ sec}) \left( \frac{1 \text{ min}}{60 \text{ sec}} \right) \left( 6000 \frac{\text{ft}^3}{\text{min}} \right) = 12,000 \text{ ft}^3$

Fraction of fission products released in 120 seconds  $\frac{12,000 \text{ ft}^3}{7.0 \cdot 10^5 \text{ ft}^3} = 0.0171 = 1.71\%$

The GGNS dispersion factors have been revised with the latest five years (1995-1999) of hourly site meteorological data. The offsite atmospheric diffusion factors used in this analysis are calculated in XC-Q1C84-92009 [13] using the PAVAN code. The control room  $\chi/Q$ s applied in this analysis are calculated in XC-Q1111-98011 [14] using the ARCON96 code. Consistent with the 2-hour release duration, the 0-2 hour  $\chi/Q$  values are applied in this calculation. This calculation will apply the following values, which bound the calculated numbers. Considering that less than 2% of the activity is released through the containment ventilation system with the remaining 98% released via SGTS, an effective control room  $\chi/Q$  of  $8.5\text{E-}4 \text{ s/m}^3$  will be applied in this calculation.

**Table 3-2 GGNS Dispersion Factors**

Location	$\chi/Q \text{ (s/m}^3\text{)}$
EAB (696 m)	6.0E-4
LPZ (3219 m)	1.25E-4
Control Room Intake (via Containment Ventilation louver)	3.0E-3
Control Room Intake (via SGTS louver)	8.0E-4
Effective Control Room Intake	8.5E-4

### 3.1.5 Appendix B of RG 1.183

This calculation applies the acceptable assumptions described in Appendix B of RG 1.183 as described in more detail below.

1. The number of fuel rods damaged during the accident is based on the fuel vendor's NRC-approved methodology and considers the weight of the grapple and several sections of the GGNS mast. See Section 4.1 for more detail.
2. This calculation applies the gap fractions in Section 3.2 of RG 1.183 (see Table 3-3 below) and assumes these source terms are instantaneously released. Only xenons, kryptons, and halogens are considered in the airborne calculation since any released particulate radioisotopes are assumed to be completely retained by the fuel pool water. RG 1.183 indicates that these gap fractions are applicable up to peak rod-average exposures of 62 GWd/MTU as long as the PLHGR does not exceed  $6.3 \text{ kW/ft}^1$  rod average power for rod burnups exceeding 54

<sup>1</sup> A rod-average LHGR of  $6.3 \text{ kW/ft}$  for a 146-inch fuel rod leads to a total rod power of 76.7 kW. The average GGNS fuel rod would operate at an average power of  $\sim 68.4 \text{ kW}$  considering the 56,000 fuel

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GWd/MTU. Considering the exposure-dependent LHGR curves, the GGNS fuel designs satisfy this criterion.

**Table 3-3 Gap Fractions for High Burnup Fuel**

Isotope/Group	Gap Fraction
I-131	8%
Kr-85	10%
Other Noble Gases and Halogens	5%
Alkali metals	12%

3. The chemical form of radioiodine released from the fuel is assumed to be 95% CsI, 4.85% elemental iodine, and 0.15% organic iodine. The CsI is assumed to completely dissociate in the pool water. A mechanistic treatment of iodine re-evolution is presented in Appendix B to support a somewhat higher pool DF in the reactor well.
4. The GGNS pools maintain at least 23 feet of water coverage above damaged fuel. This calculation applies the RG 1.183 pool overall DF value of 200 for drops over the fuel racks. For drops over the reactor core, where there is significantly more water depth than 23 feet and a large mixing volume for the dissociated iodine, an overall pool DF of 400 is applied as supported by Appendix B.
5. The retention of noble gases in the water in the fuel pool or reactor cavity is neglected while the particulate radionuclides are assumed to be retained by the water in the fuel pool or reactor cavity.
6. The radioactive material that escapes from the fuel pool to the fuel building is assumed to be released to the environment over a 2-hour time period.
7. The only system actuation applied in this calculation is for the automatic isolation of the containment ventilation system discharge. Conservatively long times have been assumed for radiation detection, damper isolation, and system actuation.
8. As reported in Section 15.3.3 of NUREG-0831 [45], the NRC has permitted credit for 50% mixing for fuel handling accidents in the GGNS primary containment. Consistent with the NRC assumptions in NUREG-0831 Table 15-4, a containment free volume of  $1.4E6 \text{ ft}^3$  is credited in this analysis. All airborne source terms are released to the environment over a 2-hour period.

### 3.2 10CFR50, Appendix A

Appendix A of 10CFR50 contains a number of design criteria. The criteria addressing the fuel handling accident are numbers 61 and 63.

#### 3.2.1 General Design Criterion 61

*GDC 61 addresses the design of the systems associated with radioactivity control in the fuel storage and handling systems. Specifically, this criterion addresses "appropriate containment, confinement, and filtering systems".*

rods in the 3833-MWth GGNS core. As required by the GGNS exposure-dependent LHGR curves, high-exposure rods would be operating at less than this core average power.



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(SGTS), demonstrating that "appropriate containment, confinement, and filtering systems" are still available during a fuel handling accident without the SGTS.

### 3.2.2 General Design Criterion 63

*GDC 63 requires means for detecting excessive radiation levels in fuel storage systems and to initiate the appropriate safety actions.*

This analysis will identify these systems as they are credited for radioactivity control. However, this calculation will not credit secondary containment or SGTS, demonstrating that "appropriate safety actions" do not require secondary containment or the initiation of SGTS during a fuel handling accident.

### 3.3 Regulatory Guide 1.25

Regulatory Guide 1.25 provides guidance for calculating the activity released to the buildings and the associated offsite doses. This guidance is divided into the following categories.

- Activity Release
- Atmospheric Diffusion Factors
- Dose Calculations

#### 3.3.1 Activity Release

The assumptions in Regulatory Guide 1.25 related to the curies of released activity are addressed below.

##### Assumption 1.a

*The accident occurs at a time after shutdown identified in the Technical Specifications as the earliest time fuel handling operations may begin.*

The minimum decay time is 24 hours per Technical Requirements Manual (TRM) 6.9.1 [5] and is used in the analysis.

##### Assumption 1.b

*The maximum fuel rod pressurization is 1200 psig.*

This requirement is interpreted to be applicable at the time of the accident (not during operations). For ANF 9x9-5 fuel, the maximum rod internal pressure during operation is predicted to be approximately 1300 psi [6] at the maximum burnup. At the reduced fuel temperatures during shutdown, the rod internal pressure is significantly less than that experienced during operation. Therefore, the maximum fuel rod pressurization for SPC 9x9-5 fuel will remain below 1200 psig.

For GE11 fuel, GE has calculated that the maximum fuel rod pressurization remains below 1200 psig for reactor coolant temperatures up to 200 °F [7] which is the maximum reactor coolant temperature permitted in Modes 4 and 5 per GGNS Technical Specification Table 1.1-1.

##### Assumption 1.c

*The minimum water depth between the top of the damaged fuel rods and the pool surface is 23 feet.*



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Technical Specification 3.9.6 prohibits the movement of irradiated fuel in the vessel without at least 22'-8" of water above the reactor flange thereby providing significantly more than 23 feet over any damaged rods in the event of a drop over the core. Technical Specification 3.9.7 prohibits the movement of other objects (new fuel assemblies or control blades) in the vessel without at least 23 feet of water coverage. TRM TR3.7.6 and Technical Specification 3.7.6 require at least 23 feet of water over the top of irradiated bundles in the fuel pool racks at all times.<sup>2</sup>

### Assumption 1.d

*The fraction of the total fission products which are released to the fuel rod's pellet/clad gap shall be taken as:*

- 10% of the noble gases (excluding Kr-85)
- 30% of the Kr-85 inventory
- 10% of the iodine inventory.

This calculation applies the gap fractions reported in RG 1.183 Table 3.

### Assumption 1.e

*The fission product inventories are calculated assuming 100% full power operation through end of core life with a minimum radial power peaking factor of 1.5 for BWRs.*

The fuel handling accident source terms are generated in Reference 8. This analysis uses the ORIGEN2.1 methodology to generate the bundle source term inventory conservatively assuming full power operation through the end of bundle life. The radial peaking factor assumed in this analysis is 1.70 [39]. Core power and power distribution uncertainties are also considered in the calculation of these source terms.

### Assumption 1.f

*The iodine gap inventory is composed of 99.75% inorganic species and 0.25% organic species.*

This calculation applies the updated chemical species distribution in Appendix B to RG 1.183.

### Assumption 1.g

*The pool decontamination factors for the inorganic and organic species are 133 and 1 respectively, giving an overall effective decontamination factor of 100.*

This calculation applies the updated pool DF values in Appendix B to RG 1.183. As described in Appendix B, this calculation applies a value of 400 for drops over the reactor vessel.

### Assumption 1.h

*The retention of noble gases in the pool is negligible (i.e., decontamination factor of 1).*

This analysis credits this assumption.

<sup>2</sup> Even a bundle laying on top of the fuel bale handles of seated bundles in the racks would maintain 23 feet of water coverage based on the nominal water level at 207' 10". The fuel bale handle rises approximately 5" above the top of the racks. Considering the 176 1/8" height of the racks, a 6" wide bundle, and the fuel pool floor at El. 167'6", there would be 24.74 feet of water above the top of a horizontal bundle laying on the bale handles of bundles seated in the racks.



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### Assumption 1.i

*The activity that escapes from the pool to the building is released to the environment over a 2-hour period.*

This calculation assumes a two-hour release period.

### Assumption 1.j

*For scenarios in which the activity is exhausted through charcoal adsorbers, plant-specific filter efficiencies can be credited.*

This analysis credits no filtration through the Standby Gas Treatment or Control Room Fresh Air filters or charcoal beds.

### Assumption 1.k

*The effluent from the filter system passes directly to the emergency exhaust system without mixing in the surrounding building atmosphere and is then released as an elevated plume for those facilities with stacks. Credit for mixing is evaluated by the NRC on an individual case basis.*

As reported in Section 15.3.3 of NUREG-0831 [45], the NRC has permitted credit for 50% mixing for fuel handling accidents in the GGNS primary containment. Consistent with the NRC assumptions in NUREG-0831 Table 15-4, a containment free volume of  $1.4E6 \text{ ft}^3$  is credited in this analysis. Since GGNS does not have a stack, a ground release is assumed in this analysis.

### Assumption Conditions

Footnote 1 of R.G. 1.25 indicates that the above assumptions are only applicable if the following three conditions are met. These conditions are primarily related to the fraction of the fission products which are released to the pellet/clad gap. If any condition is not met, the impact on the above assumptions would need to be assessed. As shown below, all of these conditions are met for GGNS.

- a. *The peak linear heat generation rate is not to exceed 20.5 kW/ft.*

The SPC 9x9-5 and GE11 designs operate with maximum LHGR less than 15 kW/ft [22,24]. Cycle-specific LHGR limits ensure that the LHGR remains at or below these maximum values.

- b. *The maximum fuel centerline temperature is to be less than 4500 °F.*

The maximum temperature for SPC 9x9-5 and GE11 fuel satisfy this requirement [10,11].

- c. *The average burnup of the peak bundle is less than 25,000 MWd/MTU.*

This calculation applies the gap fractions in Table 3 of RG 1.183, which are applicable for rod average burnups up to 62 GWd/MTU. The GGNS fuel designs meet this burnup requirement.

### **3.4 Source Terms**

The transient bundle source terms have been calculated for the fuel handling accident in Reference 8. Isotopes with bundle activities less than 1 Curie are neglected. Since the

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particulate radionuclides (*i.e.*, cesium and rubidium) are completely retained by the water pool (as discussed in Section 3.3.1), these nuclides are not modeled in this calculation. The activities applied in this calculation are listed below as calculated in Reference 8.

**Table 3-4 Bundle Activities (Curies) of  
NUREG -1465 Bundle Gap Isotopes**

Isotope	Decay Time			
	Decay Constant (day <sup>-1</sup> )	24 Hours	48 Hours	72 Hours
BR 82	4.713E-01	1.698E+03	1.060E+03	6.618E+02
BR 83	6.960E+00	3.876E+01	3.677E-02	3.488E-05
I130	1.346E+00	5.233E+03	1.362E+03	3.546E+02
I131	8.621E-02	2.227E+05	2.057E+05	1.894E+05
I132	7.296E+00	2.789E+05	2.254E+05	1.822E+05
I133	7.998E-01	2.204E+05	9.905E+04	4.452E+04
I135	1.901E+01	3.599E+04	2.906E+03	2.347E+02
KR 83M	8.944E+00	1.499E+02	1.551E-01	1.486E-04
KR 85	1.770E-04	3.102E+03	3.101E+03	3.101E+03
KR 85M	3.713E+00	2.185E+03	5.334E+01	1.302E+00
KR 88	5.858E+00	7.203E+02	2.054E+00	5.856E-03
XE129M	7.806E-02	8.772E+00	8.044E+00	7.376E+00
XE131M	5.815E-02	2.703E+03	2.684E+03	2.657E+03
XE133	1.320E-01	4.360E+05	4.014E+05	3.610E+05
XE133M	3.165E-01	1.334E+04	1.083E+04	8.394E+03
XE135	1.828E+00	1.197E+05	2.683E+04	4.919E+03
XE135M	2.718E+00	5.765E+03	4.655E+02	3.760E+01

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## 4.0 ASSUMPTIONS

### 4.1 Generic GE Fuel Handling Assumptions

This analysis incorporates the assumptions in the generic GE fuel handling accident in GESTAR-II [18]. This accident scenario assumes the dropped assembly (a channeled fuel bundle) impacts four seated bundles at a small angle to vertical. Then, the assembly tips over and impacts horizontally on top of other bundles. These assumptions (and their appropriateness to the Siemens bundles currently in the GGNS reactor) are addressed below.

- i. The grapple cable is assumed to break allowing the grapple head and three sections of the telescoping NF-500 mast to remain attached to the falling assembly. This assumption is consistent with NS&RA recommendations [19]. TRM 6.9.3 requires that fuel bundles be moved in containment only with the refueling platform. TRM 6.9.5 requires that the fuel handling platform be used to handle irradiated bundles in the auxiliary building.
- ii. Dissipation of the mechanical energy of the dropped objects by the water (*i.e.*, drag forces) is neglected.
- iii. All rods in the dropped assembly are assumed to fail in bending. No credit is taken for the lateral support provided by the channel.
- iv. One half of the energy is assumed to be absorbed by the dropped assembly and one-half by the impacted assemblies. This assumption was addressed by GE for GGNS in Reference 20 and is not applied to "light loads".
- v. The wet weight of a fuel assembly (bundle plus channel) is assumed to be 600 pounds. This weight bounds the Siemens 9x9-5 assembly (268 kgs or 590 pounds per Reference 21) and the GE11 assembly (562 pounds per GESTAR-II [18]).
- vi. The height of the fuel assembly is assumed to be 180 inches. This height bounds the 176-inch height of the Siemens bundles [22] and the 160-inches applied for the GE bundles reported in GESTAR-II.
- vii. The wet weight of the GGNS NF-500 mast is assumed to be 619 pounds [23]. This weight is consistent the value reported in GESTAR-II and bounds drops with the lighter NF-400 mast in the auxiliary building.
- viii. No energy is assumed absorbed by the fuel pellets. Only the non-fuel portions of the bundle are assumed to absorb the impact energy. A bounding value of the cladding fraction of the non-fuel bundle mass is assumed to be 52% for channeled bundles. These values conservatively overestimate the cladding fraction for Siemens bundles per Reference 21 and bounds the GE NRC-



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approved value of 51% in GESTAR-II. All struck bundles (both in the core and the pools) are assumed to be channeled since GGNS does not re-use channels.

### 4.2 Treatment of Part-Length Rods

The GE11 fuel bundle is composed of 74 fuel rods [24], eight of which are part-length rods which are attached at the bottom of the bundle and are approximately 60% of the length of the full-length rods. In the event a seated GE11 bundle is struck, these part-length rods would not see any significant impact loads. On this basis, only the 66 full-length rods in the struck GE11 bundles will be considered for failure in this analysis.

The bundle source terms are assumed to be evenly distributed among the fuel rods. Considering the 66 full-length rods and the 8 part-length rods at 60% of the length of the full-length rods, there are 70.8 effective full-length rods in each GE11 bundle. Since the source terms have been calculated on a bundle basis [8], the source terms in each rod are assumed to be  $1/70^{\text{th}}$  of the bundle source terms.

### 4.3 Previously Discharge Bundles

Since the GE 8x8 and Siemens 8x8 fuel designs have not been in the core for at least one cycle, these fuel types have a significantly reduced source term inventory. For example, the I-131 inventory would be negligible considering the 8-day half-life of this important isotope. On this basis, these fuel designs will not be considered in this analysis as they are bounded by the designs in the reactor.

### 4.4 Treatment of Bromine

As a halogen, bromine isotopes are modeled identical to iodine in terms of pool and charcoal decontamination factors.

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## 5.0 CALCULATIONS

### 5.1 Failure Thresholds

In a fuel handling accident, rod failures will occur due to both bending and compression loads. The rods in the dropped bundle experience a bending load due to the assumed slight angle from vertical at which they strike the seated bundles while the impacted rods experience a compression load. Since the bending threshold is small (~1 ft-lb) for fuel rods, all rods in the dropped bundle are assumed to fail in bending.

As discussed by Siemens in Reference 25, a transient-induced strain as low as 1% can result in fuel rod failure in compression. This 1% limit is also discussed for GE fuel in GESTAR-II. For the GE fuel bundles, GESTAR-II reports a bounding compression failure threshold of 200 ft-lbs for GE fuel designs based on a uniform 1% plastic deformation. This value represents a 20% reduction from the original 250 ft-lb threshold reported in Reference 26. Considering the stronger cold-worked cladding of the Siemens bundles relative to the fully-annealed cladding of the GE bundles, the 200 ft-lb compression failure threshold would also be a conservatively low value for the SPC 9x9-5 bundles.

Considering that the GE11 bundles have more source terms per rod than the SPC 9x9-5 design (due to the fewer effective full-length rods, 70 versus 76) and that the rod failure threshold is assumed identical to the SPC fuel, the GE fuel design would be the limiting fuel design in a fuel handling accident. As such, this analysis will conservatively assume that a GE11 bundle is dropped onto seated GE11 bundles.

### 5.2 Failed Rods Calculation Methodology

This analysis applies GE's GESTAR-II methods for the calculation of the number of rod failures resulting from a fuel handling accident. As reported in Section 4, the dropped assembly impacts four seated bundles at a small angle to vertical. Then, the dropped assembly tips over and impacts horizontally on top of other bundles. The number of rods that fail in the struck bundles can be calculated from the equations derived in GESTAR-II, Section S.2.2.3.5 as follows.

$$\text{Number of Impacted Rod Failures} = \frac{0.5 * M_c \left[ (W_a + W_m) * H_d + W_m H_a + \frac{1}{2} W_a H_a \right]}{FT} \quad (5-1)$$

where:

- $M_c$  = Cladding fraction of non-fuel bundle mass (0.52 from Section 4)
- $W_a$  = Wet weight of the dropped assembly (600 lbs from Section 4)
- $W_m$  = Wet weight of the dropped sections of the mast (619 lbs from Section 4)
- $H_d$  = Drop height [ft] (specific to scenario)
- $H_a$  = Height of the dropped assembly (180 inches from Section 4)
- $FT$  = Rod failure threshold (200 ft-lbs from Section 5.1)

With the values reported above, Equation 5-1 can be simplified as:

$$\text{Number of Impacted Rod Failures} = 1.585 * H_d + 17.921 \quad (5-2)$$



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### 5.3 Drop Scenarios

A number of different fuel-related accidents can be postulated to occur at GGNS considering the relaxations proposed in Section 1. This section develops the worst-case accidents and calculates the number of damaged fuel rods for each case. These cases include:

1. drop of an irradiated assembly over the core,
2. drop of an un-irradiated assembly over the core,
3. drop of an irradiated assembly over the racks, and
4. drop of an un-irradiated assembly over the racks.

These cases are discussed in detail below.

#### 5.3.1 Drop Scenario 1: Drop of an irradiated fuel assembly over the core

In this scenario, an irradiated fuel assembly is being moved over the core by the refueling platform and the mast is at its fully retracted position. The grapple cable breaks dropping the irradiated assembly, the grapple head, and all three sections of the mast. This assembly strikes the upper tie plates of the irradiated assemblies in the core failing all rods of the dropped assembly in bending and a number of rods in the struck assemblies.

Figure 5-1 illustrates the heights involved in this scenario. UFSAR Section 9.1.4.2.7.1 indicates that the refueling platform main grapple, at its fully retracted position, maintains at least 7' 9" (93") of water shielding over the active fuel. This shielding is ensured by Procedure 06-OP-1C71-V-0002 [27]<sup>3</sup>. Reference 28 indicates that the normal water level is 23 feet (207' 10"-184' 10" [41]) above the flange<sup>4</sup>. Reference 29 indicates that the elevations of the top of the active fuel in the vessel (based on 150-inch active fuel lengths) and vessel flange are 366.31" and 745" AVZ respectively. Reference 30 indicates that the top of the fuel assembly upper tie plate (where the dropped item would impact) is approximately 12 inches above the active fuel for the Siemens 9x9 designs. A similar distance is expected for GE11 designs with 150-inch active fuel length.

Assuming a short pellet stack of 146 inches and neglecting the bundle nosepiece, the bottom of the bundle would be 239 inches (7'9"+146") below the surface of the pool. The pool surface is calculated to be 654.69 inches (745"-366.31"+23') above the TAF or 642.69 inches (654.69"-12") above the upper tie plates of the seated fuel bundles. The drop height is therefore calculated as 403.69 inches (642.69"-239") or less than the 34 feet assumed by GE in Section S.2.2.3.5 of GESTAR-II. Using a bounding value of 34 feet in Equation 5-2, 72 rods fail in the impacted bundles.

$$\text{Number of Impacted Rod Failures} = 1.585 * 34 + 17.921 = 72$$

<sup>3</sup> Note that Reference 27 requires that an additional 17.33 inches be added to the distance measured from the surface to the bottom of the bail handle. This requirement ensures a total of 7 feet 9 inches of water shielding between the active fuel and the pool surface.

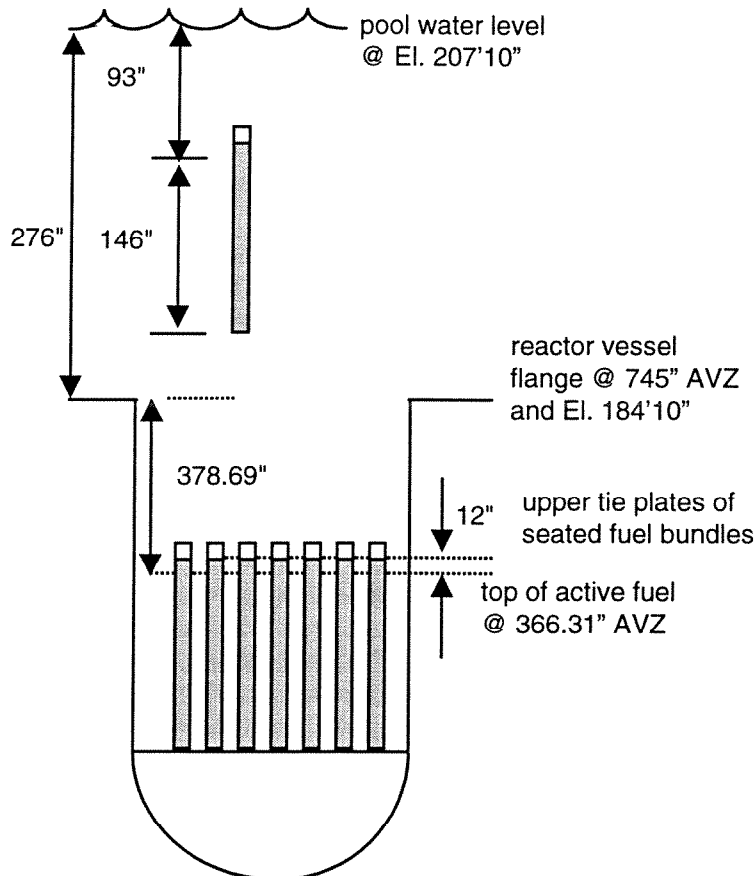
<sup>4</sup> Note that this water height is conservatively greater than that in Technical Specification 3.9.6 which requires that level be at least 22' 8" above the vessel flange.

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Considering the 70 rod failures in the dropped assembly, the total number of rod failures is summed to be 142, representing 2.029 failed bundles. This result is consistent with the 140 (123\*172/151) 9x9 rods predicted to fail with the NF500 mast reported in Section 3.8 of Reference 36.



**Figure 5-1 Core Drop Heights**

### 5.3.2 Drop Scenario 2: Drop of an un-irradiated fuel assembly over the core

As calculated above, the drop of an un-irradiated bundle would result in 72 struck rod failures. Since an un-irradiated fuel assembly contains no source terms, the number of rod failures for dose purposes is only those struck rods or 72 rods.

### 5.3.3 Drop Scenario 3: Drop of an irradiated fuel assembly over the racks

In this scenario, an irradiated fuel assembly is being moved over the upper containment racks by the refueling platform and the mast is at its fully retracted position. The grapple cable breaks dropping the irradiated assembly, the grapple head, and all three sections of the mast. This assembly strikes irradiated assemblies seated in the racks failing all rods of the dropped assembly in bending and a number of rods in the struck assemblies.



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Figure 5-2 illustrates the heights involved in this scenario. The elevation of the fuel pool bottom is 167' 6" (Ref. 34, conservatively neglecting the 1/4" liner plate) while the racks are 176.125" tall [35]. Assuming a short pellet stack of 146 inches and neglecting the bundle nosepiece, the maximum drop distance to the top of the racks can be calculated as  $207'10'' - 167'6'' - 93'' - 146'' - 176.125'' = 68.875$  inches or 5.8 feet. This distance is rounded up to 6 feet. Using Eq. 5-2, 28 rods fail in the impacted bundles.

$$\text{Number of Impacted Rod Failures} = 1.585 * 6 + 17.921 = 28$$

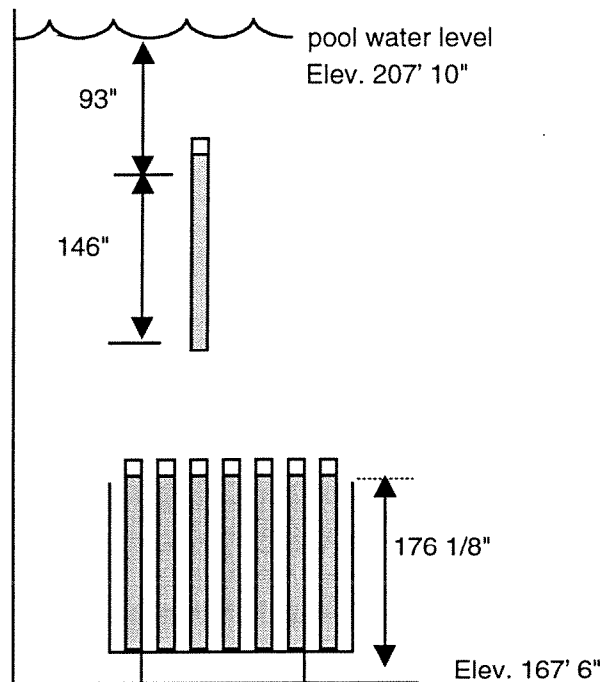
Considering the 70 rod failures in the dropped assembly, the total number of rod failures is summed to be 98, representing 1.4 failed bundles.

This accident bounds the failures that would be calculated by a fuel handling accident over the spent fuel pool due to the heavier NF-500 mast on the refueling platform. Reference 31 indicates that the total wet weight of the movable sections of the fuel handling platform mast is 237 pounds (7- and 10-inch sections plus the grapple head) compared to the 619 pounds used in this analysis. The drop height for this scenario is identical to that in containment since the racks are identical, the pool bottom is at the same elevation [32], and the same amount of water shielding is available<sup>5</sup>.

<sup>5</sup> UFSAR Section 9.1.4.2.7.3 indicates that the fuel handling platform main grapple, at its fully retracted position, maintains at least 7' 9" of water shielding over the active fuel. For the spent fuel pool, this shielding is ensured by the surveillances in Procedure 06-OP-1F11-V-001 [33] which requires at least 6' 3.67" between the bottom of the bail handle (on the dummy bundle) and the surface of the fuel pool. An additional 17.33 inches exists between the bottom of the handle and the active fuel as included in Reference 27 for the refueling platform.

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**Figure 5-2 Spent Fuel Pool Drop Heights**

### 5.3.4 Drop Scenario 4: Drop of an un-irradiated fuel assembly over the racks

As calculated above, the drop of an un-irradiated bundle would result in 28 struck rod failures. Since an un-irradiated fuel assembly contains no source terms, the number of rod failures for dose purposes is only those struck rods or 28 rods.

### 5.3.5 Drop Scenario Summary

The following table summarizes the number of rods calculated to fail in each of the analyzed scenarios.

**Table 5-1 Irradiated Fuel Failures by Scenario**

Number	Scenario	Number Failed Irradiated Rods
1	Drop of an irradiated fuel assembly over the core	142
2	Drop of an un-irradiated fuel assembly over the core	72
3	Drop of an irradiated fuel assembly over the racks	98
4	Drop of an un-irradiated fuel assembly over the racks	28



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### 5.4 Spectrum of Accidents

This calculation will evaluate the four scenarios described in Section 5.3 assuming no secondary containment. In addition, a sensitivity case is performed demonstrating that the proposed pool DF is not necessary for GGNS to meet the applicable acceptance criteria. The following table summarizes the evaluated cases.

Case Number	Scenario	Number Failed Irradiated Rods	Pool DF	Days of Decay
1	Drop of an irradiated fuel assembly over the core	142	400	1
2	Drop of an un-irradiated fuel assembly over the core	72	400	1
3	Drop of an irradiated fuel assembly over the racks	98	200	1
4	Drop of an un-irradiated fuel assembly over the racks	28	200	1
5	Drop of an irradiated fuel assembly over the core	142	200	1



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**5.5 Dose Calculations**

This section describes the methodology used to determine the offsite and control room doses.

**5.5.1 EAB Dose Formulations**

The following formulas are applied to calculate the EAB doses from each isotope.

*Whole Body Dose:*

$$D_j^{wb} = \sum_i \frac{DCF_i^{wb} * Q_i * f_i * \chi}{DF_{i,j} * Q} * FB_j$$

where:

- $D_j^{wb}$  = Whole Body Dose for Scenario j [Rem]
- $DCF_i^{wb}$  = Whole Body Dose Conversion Factor for Isotope i (Rem-m<sup>3</sup>/Ci-s from Table 3-1)
- $Q_i$  = Bundle Inventory for Isotope i (Ci from Table 3-4)
- $f_i$  = Release Fraction for Isotope i (from Table 3-3)
- $DF_{i,j}$  = Pool Decontamination Factor for Isotope i in Scenario j
- $\chi/Q$  = EAB Atmospheric Dispersion Factor (6E-4 s/m<sup>3</sup> from Table 3-2)
- $FB_j$  = Number of Failed Bundles for Scenario j

*Inhalation Dose:*

$$D_j^{inh} = \sum_i \frac{DCF_i^{inh} * Q_i * f_i}{DF_{i,j}} * BR * \frac{\chi}{Q} * FB_j$$

where:

- $D_j^{inh}$  = Inhalation Dose for Scenario j [Rem]
- $DCF_i^{inh}$  = Inhalation Dose Conversion Factor for Isotope i (Rem/Ci from Table 3-1)
- BR = Breathing Rate [3.5E-4 m<sup>3</sup>/s per Section 3.1.1]

The TEDE dose is the sum of the whole body and inhalation doses.

$$D_j^{TEDE} = \frac{\chi}{Q} * FB_j * \sum_i \frac{Q_i * f_i}{DF_{i,j}} * (DCF_i^{wb} + DCF_i^{inh} * BR)$$

**5.5.2 Control Room Dose Formulations**

The methodology for the control room dose calculation is developed in Appendix A and concludes that, for the case of no filtered recirculation or post-accident purge, the following formula can be applied to calculate the control room TEDE dose.

$$D_j^{TEDE} = \frac{\chi}{Q} * \sum_i \left( \frac{DCF_i^{wb}}{MCGF} + DCF_i^{inhal} * BR \right) * Q_{i,j} = \frac{\chi}{Q} * FB_j * \sum_i \left( \frac{DCF_i^{wb}}{MCGF} + DCF_i^{inhal} * BR \right) * \frac{Q_i * f_i}{DF_{i,j}}$$

where:

- $Q_{i,j}$  = Activity of Isotope i in Containment Atmosphere for Scenario j,



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MCGF = Murphy-Campe Geometry Factor =  $1173/V_{CR}^{0.338} = 17.5$ , and

$\chi/Q$  = Atmospheric Dispersion Factor from Release Point to Control Room Intake ( $8.5E-4$  s/m<sup>3</sup> from Table 3-2).

The control room free volume is  $2.53E5$  ft<sup>3</sup> based on Reference 49. Although this volume considers the entire airtight boundary including the control cabinet area above the control room, the primary control room on El. 166' represents over 85% of this volume. Consequently, a Murphy-Campe Geometry Factor generated from this total volume is conservative and leads to an underestimate of this geometry factor.

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## 6.0 RESULTS

The radiological consequences of a fuel handling accident over the core and racks are reported in Attachment 1 and summarized below. A benchmark of Case 3 with an undocumented GGNS code called RAPTOR<sup>6</sup> is documented in Attachment 2 and demonstrated good agreement.

Case Number	Scenario	Number Failed Irradiated Rods	Pool DF	Days of Decay	DOSE (Rem TEDE)	
					EAB	Control Room
1	Drop of an irradiated fuel assembly over the core	142	400	1	1.254	1.039
2	Drop of an un-irradiated fuel assembly over the core	72	400	1	0.636	0.527
3	Drop of an irradiated fuel assembly over the racks	98	200	1	1.368 (benchmark 1.367)	1.404 (benchmark 1.403)
4	Drop of an un-irradiated fuel assembly over the racks	28	200	1	0.391	0.401
5	Drop of an irradiated fuel assembly over the core	142	200	1	1.982	2.035

These results demonstrate that the design basis fuel handling accidents meet the proposed NRC acceptance criteria of 6.3 rem TEDE offsite and 5 rem TEDE in the control room with the application of the NUREG-1465 revised source terms. This calculation considered:

- Movement of irradiated fuel without secondary containment,
- Core alterations without secondary containment,
- No Control Room Fresh Air system, and
- No control room envelope (except for shielding).

<sup>6</sup> Since RAPTOR is being used solely as a benchmark in this calculation, a Computer Program Documentation Package on this code is not necessary to support this application.



## CALCULATION SHEET

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## CALCULATION SHEET

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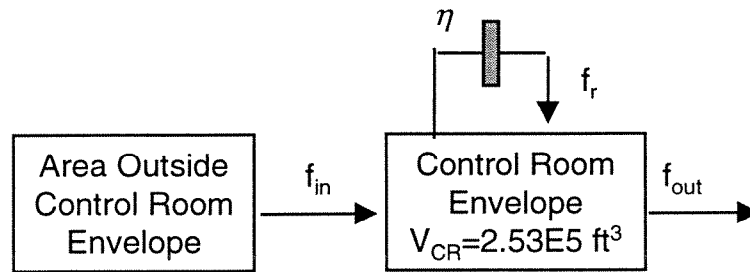
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## APPENDIX A: CONTROL ROOM DOSE MODEL

The control room is modeled as a homogeneously mixed volume with an inflow and an equivalent outflow. A filtered recirculation flow as well as a post-accident purge flow can also be considered if applicable. The transient activity concentration inside the control room can then be calculated relative to the activity concentration outside the control room envelope based on a postulated 2-hour release. If the release rate from secondary containment is constant, the activity concentration outside the control room is also constant and is defined by the product of the release rate from the secondary containment ( $C_i/s$ ) and the control room  $\chi/Q$  value ( $s/m^3$ ). This model is illustrated below.



**Figure A-1 Control Room Model**

An activity balance for the control room concentration can then be developed for each isotope.

$$\frac{d}{dt} C_{CR}(t) = \frac{C_{out} \cdot f_{in}}{V_{CR}} - \frac{C_{CR}(t) \cdot f_{out}}{V_{CR}} - \frac{C_{CR}(t) \cdot f_r \cdot \eta}{V_{CR}} - \lambda \cdot C_{CR}(t) \quad (A-1)$$

where:

- $C_{CR}(t)$  = transient activity concentration in the control room
- $C_{out}$  = constant activity concentration outside the control room envelope
- $f_{in}$  = leakage rate into the control room
- $V_{CR}$  = volume of the control room
- $f_{out}$  = leakage rate out of the control room
- $f_r$  = recirculation flow rate
- $\eta$  = efficiency of the control room recirculation filters (isotope and species dependent)
- $\lambda$  = decay constant of isotope

Conservatively neglecting decay in the control room<sup>7</sup> and assuming the area outside the control room envelope is so large that the concentration is unchanged with the inleakage, the control room activity concentration can be written as:

<sup>7</sup> A majority of the short-term isotopes have already decayed to insignificant activities before the accident due to the 24-hour decay period required before moving irradiated fuel. In addition, since a majority of the control room TEDE dose is expected from I-131, which has an 8.04-day half-life, the decay of this important isotope is expected to be negligible over the duration of this calculation.

$$C_{CR}(t) = C_{out} \left( \frac{f_{in}}{f_{out} + f_r \cdot \eta} \right) \left[ 1 - e^{-\left( \frac{f_{out} + f_r \cdot \eta}{V_{CR}} \right) \cdot t} \right] \quad (A-2)$$

After the release ends, the concentration outside the control room would become zero and the control room concentration would decay off with the following expression where  $t_r$  is the time at which the release ends. At this time, the operators may initiate the Control Room Fresh Air system fans to draw fresh air in from the outside (at a flow of  $f_p$  in addition to the outleakage), further diluting the source terms in the control room. The control room source term concentration would then decrease exponentially by the following formula.

$$C_{CR}(t) = C_{CR}(t = t_r) \cdot e^{-\left( \frac{f_{out} + f_p + f_r \cdot \eta}{V_{CR}} \right) \cdot (t - t_r)} \quad (A-3)$$

These equations would produce a transient control room activity that peaks at time  $t_r$  and decays off as the residual activity leaks out of the control room. This transient concentration is illustrated below for three inleakage flows, a  $2.53E5 \text{ ft}^3$  control room volume, no recirculating filtered flow or purge, and a release period of 2 hours. As expected, for the simple case of no cleanup and no purge, the higher inleakage rate leads to the highest peak source term concentration; however, after the accident, the source term concentration drops off faster due to the higher inleakage.

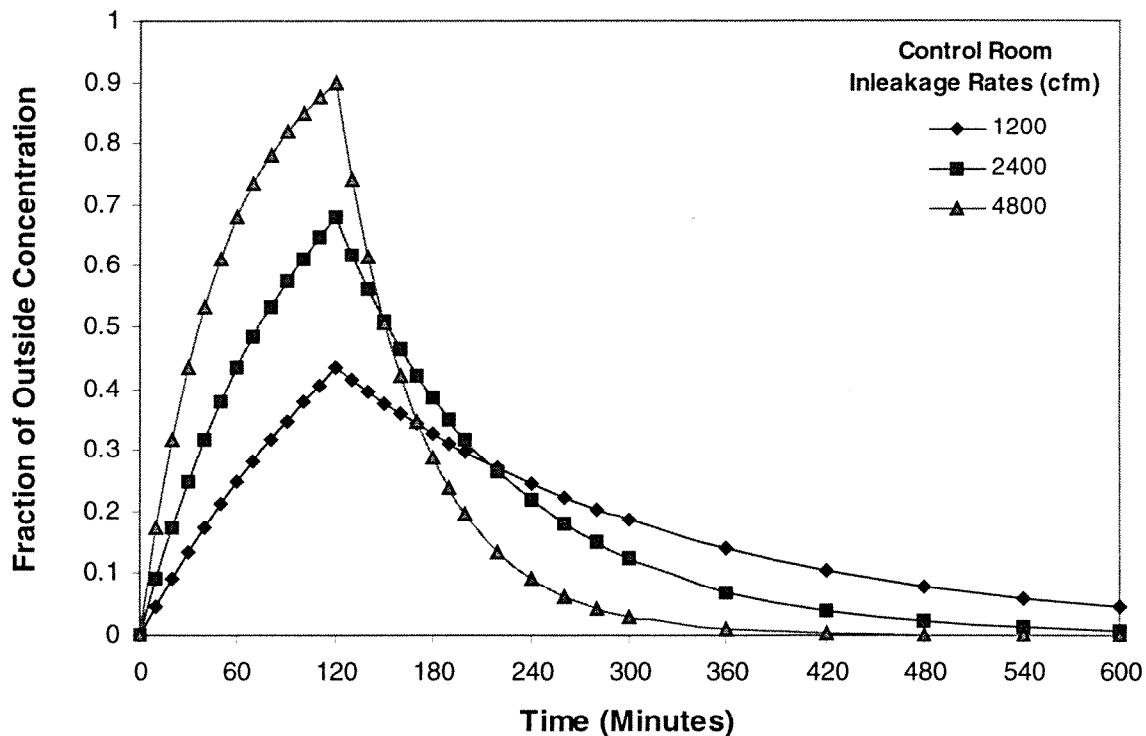
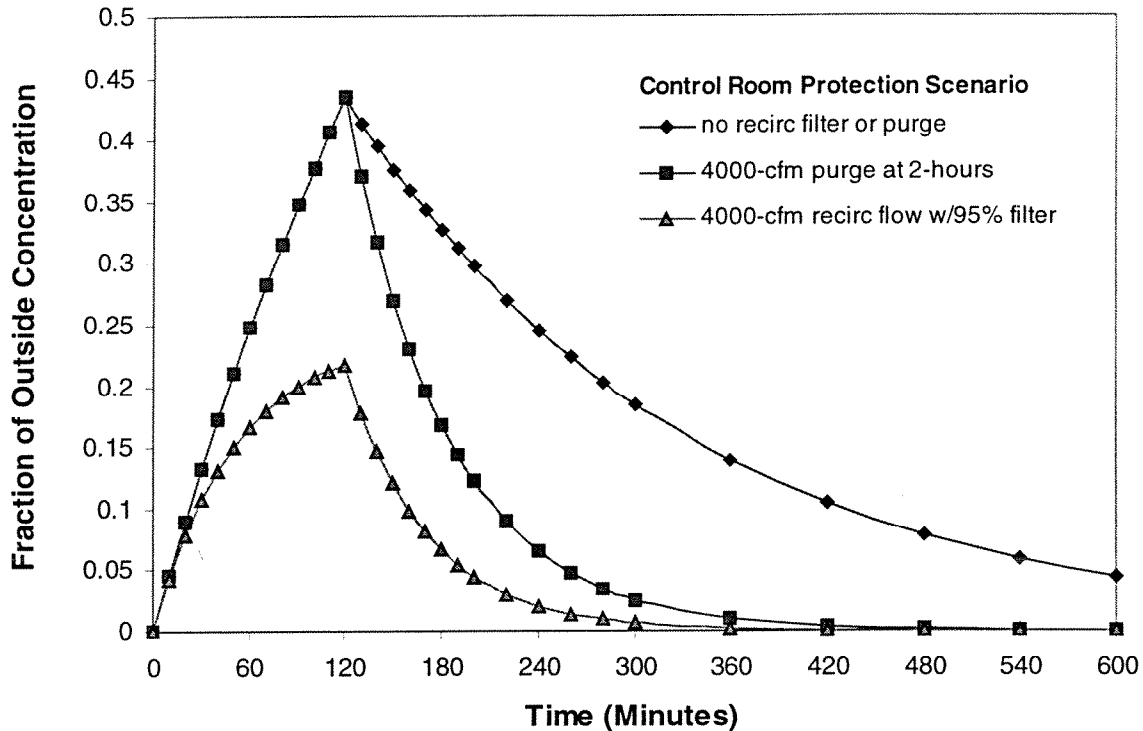


Figure A-2 Control Room Activity Transient

As expected, a filtered recirculation flow will reduce the peak activity concentration while a purge will expedite the concentration decrease after the accident as illustrated below for the 1200-cfm inleakage case.



**Figure A-3 Control Room Activity Transient for 1200-cfm Inleakage Case**

The integrated dose to the control room personnel is based on the time integral of this transient concentration.

$$\int_0^{\infty} C_{CR}(t)dt = C_{out} \left( \frac{f_{in}}{f_{out} + f_r * \eta} \right) \left[ t_r + \frac{V_{CR}}{f_{out} + f_r * \eta} \left( e^{-\left( \frac{f_{out} + f_r * \eta}{V_{CR}} \right) t_r} - 1 \right) + \left( \frac{V_{CR}}{f_{out} + f_p + f_r * \eta} \right) \left( 1 - e^{-\left( \frac{f_{out} + f_r * \eta}{V_{CR}} \right) t_r} \right) \right] \quad (A-4)$$

It is interesting to note that, for the simple case of no cleanup ( $f_r=0$  and  $\eta=0$ ) and no purge ( $f_p=0$ ), Equation A-4 can be simplified such that the integral is not dependent on the inleakage rate since the inleakage ( $f_{in}$ ) is equal to the outleakage ( $f_{out}$ ).

$$\int_0^{\infty} C_{CR}(t)dt = C_{out} t_r$$

As can be seen in the scenarios illustrated in Figure A-2, the areas under each curve are the same and identical to the case of no control room envelope (*i.e.*, infinite leakage). The integrated exposure outside the control room envelope would be equal to the concentration outside the envelope ( $C_{out}$ ) multiplied by the exposure period ( $t_r$ ). The integrated doses for this simple case of no cleanup or purge can then be calculated for each isotope with the applicable dose conversion factor.

$$\text{Dose}_{\text{WB}} = \frac{\text{DCF}_{\text{WB}}}{\text{MCGF}} \cdot \int_0^{\infty} C_{\text{CR}}(t) dt = \frac{\text{DCF}_{\text{WB}}}{\text{MCGF}} \cdot C_{\text{out}} \cdot t_r$$

$$\text{Dose}_{\text{Inhal}} = \text{DCF}_{\text{Inhal}} \cdot \text{BR} \cdot \int_0^{\infty} C_{\text{CR}}(t) dt = \text{DCF}_{\text{Inhal}} \cdot \text{BR} \cdot C_{\text{out}} \cdot t_r$$

where:

$\text{DCF}_{\text{WB}}$  is the air immersion dose conversion coefficient (Rem-m<sup>3</sup>/Ci-s),

$\text{DCF}_{\text{Inhal}}$  is the inhalation effective dose conversion coefficient (Rem/Ci),

BR is the control room breathing rate = 3.5E-4 m<sup>3</sup>/s,

MCGF is the Murphy-Campe Geometry Factor =  $1173/V_{\text{CR}}^{0.338} = 17.5$ .

For a constant release, the activity concentration outside the control room (Ci/m<sup>3</sup>) is constant and equal to the product of the release rate from the enclosure building (Ci/s) and the control room  $\chi/Q$  value (s/m<sup>3</sup>). Since the TEDE dose is the sum of the whole body and inhalation doses, the TEDE dose can be calculated for this simple case of no cleanup or purge as:

$$\text{Dose}_{\text{TEDE}} = \left( \frac{\text{DCF}_{\text{WB}}}{\text{MCGF}} + \text{DCF}_{\text{Inhal}} \cdot \text{BR} \right) \cdot C_{\text{out}} \cdot t_r = \frac{\chi}{Q} \cdot t_r \cdot \sum_i \left( \frac{\text{DCF}_{\text{WB}}^i}{\text{MCGF}} + \text{DCF}_{\text{Inhal}}^i \cdot \text{BR} \right) \cdot \dot{Q}^i \quad (\text{A-5})$$

where  $\dot{Q}^i$  is the release rate of isotope  $i$  (Ci/s) from the release point and  $\chi/Q$  is the dispersion coefficient (s/m<sup>3</sup>) from the release point to the control room intakes. Considering a constant release rate,  $\dot{Q}^i$  is the activity of isotope  $i$  in the containment atmosphere ( $Q^i$ ) divided by the release time,  $t_r$  and Equation A-5 reduces to:

$$\text{Dose}_{\text{TEDE}} = \frac{\chi}{Q} \cdot \sum_i \left( \frac{\text{DCF}_{\text{WB}}^i}{\text{MCGF}} + \text{DCF}_{\text{Inhal}}^i \cdot \text{BR} \right) \cdot Q^i \quad (\text{A-6})$$

## APPENDIX B: POOL IODINE RE-EVOLUTION ASSESSMENT

This section quantitatively addresses the potential for iodine re-evolution from the reactor well after a fuel handling accident over the core. Applying the methodology in Engineering Report GGNS-98-0039 [53], the potential for iodine re-evolution is a function of the iodine concentration in the pool, the pool pH, and the pool temperature. Each of these factors is addressed separately below.

### Pool Iodine Concentration

For a drop over the core, any released iodine would be dissolved in the water above the core including the water in the upper portions of the reactor vessel and the reactor well. Credit for mixing with other portions of the vessel or connected pools will be conservatively neglected.

The reactor well is 36 feet long by 36 feet wide and 23 feet deep [50] for a volume of 29,808 ft<sup>3</sup> or 8.44E5 liters. The reactor vessel has a 251-inch ID with 378.7 inches (745"–366.31") of water depth between the top of active fuel and reactor flange [54] for a volume of 10,844 ft<sup>3</sup> or 3.07E5 liters. The total water volume in which the released iodine would dissociate would therefore be 1.15E6 liters.

Calculation XC-Q1J11-98018 [8] determined a bounding bundle iodine inventory of 0.7 g-atoms, which is primarily composed of I-129 and the stable I-127. From Table 5-1, a maximum 142 fuel rods (2.03 bundles) will fail for a drop of an irradiated assembly over the core. With a gap fraction of 5%<sup>8</sup> per RG 1.183, the worst-case release of iodine into the pool water would therefore be 0.071 g-atoms. This evaluation will assume all of this iodine dissociates in the pool water.

If all of the released iodine were to remain in the pool water, the pool iodine concentration can be calculated as 6.18E-8 g-atoms per liter.

### Pool pH

The minimum allowable pH for the fuel pool is 5.3 per 08-S-03-10 [51]. The minimum allowable pH for the reactor coolant system is 5.3 during shutdown conditions per TRM 6.4.1. Consequently, a pool pH of 5.3 will be assumed.

### Temperature

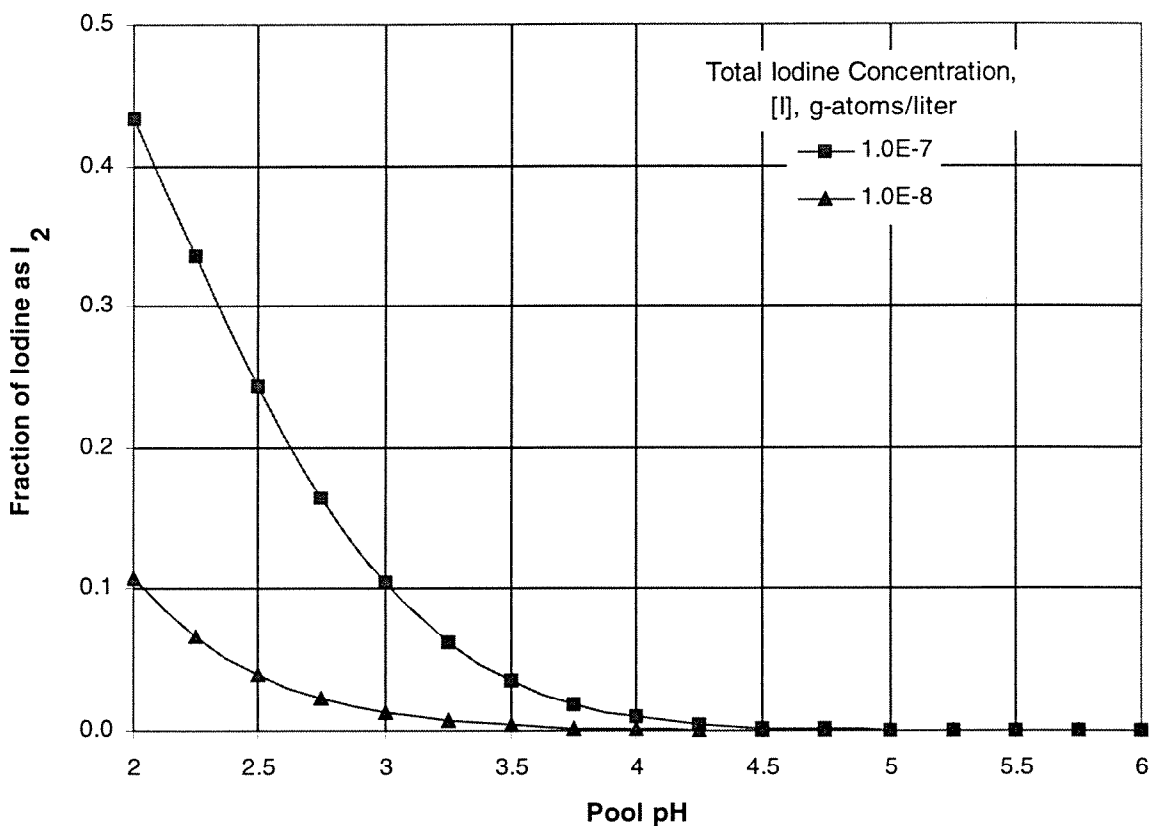
The maximum water temperature in the spent fuel pool is 140 °F per TRM 6.7.4. This temperature would be applicable in the reactor well since the fuel pools and reactor well are connected during refueling operations. For personnel habitability of the fuel movement platforms, fuel pool temperatures are generally maintained significantly below 140 °F. This maximum water temperature would result in an iodine partition coefficient of 21.2.

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<sup>8</sup> Per Reference 8, only a small fraction (~2%) of the bundle iodine is in the form of I-131 when expressed as gram-atoms and the conservatism in the reported value of 0.7 gram-atoms more than bounds any additional iodine release fraction.

## CALCULATION

The fraction of iodine in the  $I_2$  species is plotted below as a function of pH for various total iodine concentrations<sup>9</sup> based on the methodology in Engineering Report GGNS-98-0039. As shown in this figure, the fraction of iodine converted to aqueous  $I_2$  is negligible due to this very small iodine concentration and relatively high pool pH of 5.3. The calculated fraction of pool iodine in the volatile  $I_2$  species using Equation 5-3 from GGNS-98-0039 is  $6.26E-5$ , with an aqueous  $I_2$  concentration of  $1.94E-12$  g-mols/liter. This iodine concentration, coupled with the partition coefficient, would result in an airborne  $I_2$  concentration of  $9.15E-14$  g-mols/liter above the pool water at equilibrium. If this airborne concentration was assumed in 50% of the containment GGNS volume of  $1.4E6$  ft<sup>3</sup> (which is consistent with the airborne analysis and reasonable considering the ~60% of containment volume in the region above the operating floor), the amount of iodine airborne in the containment can be calculated to be  $3.6E-6$  g-atoms ( $2 \times 9.1E-14 \times 1.4E6 / 2 \times 28.317$ ) or only  $5.1E-3\%$  of the released iodine. This re-evolution would represent an immediate pool DF of ~20,000.



**Figure B-1 Fraction of iodine in the  $I_2$  species as a function of pH**

GGNS procedures for a fuel handling accident call for the isolation of containment and actuation of containment ventilation in the cleanup mode, passing 6000 cfm [12] of flow through non-safety charcoal beds. As long as there is no removal of iodine from the containment

<sup>9</sup> As noted in Section 3.1 of NUREG/CR-5950, there is additional uncertainty in iodine solutions that are more dilute than  $1E-6$  gram-atoms/liter. In response, this calculation applies the worst-case value of the "d" constant in the iodine re-evolution correlation.

atmosphere, there would no longer be any driving force for additional iodine re-evolution. In order to assess the impact of the maximum iodine removal from the containment atmosphere, it is conservatively assumed that containment ventilation removes 6000 cfm of this contaminated atmosphere (via cleanup or purge mode) for an additional 24 hours resulting in the removal of  $4.45\text{E-}5$  g-atoms ( $2 \times 9.15\text{E-}14 \times 6000 \times 28.317 \times 60 \times 24$ ) of iodine from the containment atmosphere. Counting the  $3.6\text{E-}6$  g-atoms in the containment atmosphere, a total of  $4.8\text{E-}5$  g-atoms of iodine would have re-evolved from the pool over this 24-hour period. Considering the 0.071 g-atoms released into the pool, only 0.068% of the iodine would have re-evolved from the pool over this 24-hour period resulting in a pool DF of nearly 1500 for inorganic iodine.

Based on the technical discussion above, it is concluded that the low iodine concentrations associated with the GGNS fuel handling accident, the relatively high pool pH at GGNS, and the moderate pool temperature would preclude any significant long-term iodine re-evolution. Consequently, GGNS proposes to apply a pool DF of 1000 for inorganic iodine scrubbing for drops over the reactor core.

### NRC-Approved Approach

Appendix B of RG 1.183 currently permits an overall DF of 200 based on an iodine species distribution composed of 95% particulate, 4.85% elemental, and 0.15% organic. Applying the NRC's species-specific DF values, it can be shown that a pool DF value of 279.2 is being applied to the particulate iodine (or an effective DF of 285.3 for inorganic iodine). Considering the infinite DF for the alkali metals, the NRC's DF values consider re-evolution of ~0.35% (1/280) of the iodine that was originally released as an aerosol.

$$\text{Particulate DF: } DF = \frac{1}{\frac{95\%}{x} + \frac{4.85\%}{500} + \frac{0.15\%}{1}} = 200 \Rightarrow x = 279.2$$

$$\text{Inorganic DF: } DF = \frac{1}{\frac{99.85\%}{x} + \frac{0.15\%}{1}} = 200 \Rightarrow x = 285.3$$

For the proposed DF of 1000 for drops over the reactor vessel, an overall effective decontamination factor of 400 can be calculated for application in this calculation.

$$DF = \frac{1}{\frac{99.85\%}{1000} + \frac{0.15\%}{1}} = 400$$

## CASE 1 RESULTS

EAB X/Q (s/m <sup>3</sup> )=	6.00E-04									
Cont Room X/Q (s/m <sup>3</sup> )=	8.50E-04									
Breathing Rate (m <sup>3</sup> /s)=	3.50E-04									
Failed Rods=	142									
Radial Peaking Factor=	1.700									
Days of Decay=	1									
						FGR11&12 DCFs				
		Bundle	Release	Total	Total	W. Body	Inhal	EAB	CRFAS	Cont Room
	Isotope	Activity (Ci)	Fract	DF	Release (Ci)	(Rem-m <sup>3</sup> /Ci-s)	(Rem/Ci)	TEDE	Factor	TEDE
	BR 82	1.698E+03	5%	400.0	4.306E-01	4.810000E-01	1.528100E+03	2.62E-04	1.00	2.06E-04
	BR 83	3.876E+01	5%	400.0	9.828E-03	1.413400E-03	8.917000E+01	1.92E-07	1.00	2.61E-07
	I130	5.233E+03	5%	400.0	1.327E+00	3.848000E-01	2.641800E+03	1.04E-03	1.00	1.07E-03
	I131	2.227E+05	8%	400.0	9.035E+01	6.734000E-02	3.289300E+04	6.28E-01	1.00	8.84E-01
	I132	2.789E+05	5%	400.0	7.072E+01	4.144000E-01	3.811000E+02	2.32E-02	1.00	9.44E-03
	I133	2.204E+05	5%	400.0	5.589E+01	1.087800E-01	5.846000E+03	7.23E-02	1.00	9.75E-02
	I135	3.599E+04	5%	400.0	9.126E+00	3.068780E-01	1.228400E+03	4.03E-03	1.00	3.47E-03
	KR 83M	1.499E+02	5%	1	1.520E+01	5.550000E-06	0.000000E+00	5.06E-08	1.00	4.10E-09
	KR 85	3.102E+03	10%	1	6.293E+02	4.403000E-04	0.000000E+00	1.66E-04	1.00	1.35E-05
	KR 85M	2.185E+03	5%	1	2.216E+02	2.767600E-02	0.000000E+00	3.68E-03	1.00	2.98E-04
	KR 88	7.203E+02	5%	1	7.306E+01	3.774000E-01	0.000000E+00	1.65E-02	1.00	1.34E-03
	XE129M	8.772E+00	5%	1	8.897E-01	3.922000E-03	0.000000E+00	2.09E-06	1.00	1.69E-07
	XE131M	2.703E+03	5%	1	2.742E+02	1.439300E-03	0.000000E+00	2.37E-04	1.00	1.92E-05
	XE133	4.360E+05	5%	1	4.422E+04	5.772000E-03	0.000000E+00	1.53E-01	1.00	1.24E-02
	XE133M	1.334E+04	5%	1	1.353E+03	5.069000E-03	0.000000E+00	4.12E-03	1.00	3.33E-04
	XE135	1.197E+05	5%	1	1.214E+04	4.403000E-02	0.000000E+00	3.21E-01	1.00	2.60E-02
	XE135M	5.765E+03	5%	1	5.847E+02	7.548000E-02	0.000000E+00	2.65E-02	1.00	2.14E-03
								1.254		1.039
						Regulatory Limit =		6.3		5

## CASE 2 RESULTS

EAB X/Q (s/m <sup>3</sup> )=	6.00E-04									
Cont Room X/Q (s/m <sup>3</sup> )=	8.50E-04									
Breathing Rate (m <sup>3</sup> /s)=	3.50E-04									
Failed Rods=	72									
Radial Peaking Factor=	1.700									
Days of Decay=	1									
						FGR11&12 DCFs				
		Bundle	Release	Total	Total	W. Body	Inhal	EAB	CRFAS	Cont Room
	Isotope	Activity (Ci)	Fract	DF	Release (Ci)	(Rem-m <sup>3</sup> /Ci-s)	(Rem/Ci)	TEDE	Factor	TEDE
	BR 82	1.698E+03	5%	400.0	2.183E-01	4.810000E-01	1.528100E+03	1.33E-04	1.00	1.04E-04
	BR 83	3.876E+01	5%	400.0	4.983E-03	1.413400E-03	8.917000E+01	9.75E-08	1.00	1.33E-07
	I130	5.233E+03	5%	400.0	6.728E-01	3.848000E-01	2.641800E+03	5.29E-04	1.00	5.41E-04
	I131	2.227E+05	8%	400.0	4.581E+01	6.734000E-02	3.289300E+04	3.18E-01	1.00	4.48E-01
	I132	2.789E+05	5%	400.0	3.586E+01	4.144000E-01	3.811000E+02	1.18E-02	1.00	4.79E-03
	I133	2.204E+05	5%	400.0	2.834E+01	1.087800E-01	5.846000E+03	3.66E-02	1.00	4.94E-02
	I135	3.599E+04	5%	400.0	4.627E+00	3.068780E-01	1.228400E+03	2.05E-03	1.00	1.76E-03
	KR 83M	1.499E+02	5%	1	7.709E+00	5.550000E-06	0.000000E+00	2.57E-08	1.00	2.08E-09
	KR 85	3.102E+03	10%	1	3.191E+02	4.403000E-04	0.000000E+00	8.43E-05	1.00	6.82E-06
	KR 85M	2.185E+03	5%	1	1.124E+02	2.767600E-02	0.000000E+00	1.87E-03	1.00	1.51E-04
	KR 88	7.203E+02	5%	1	3.704E+01	3.774000E-01	0.000000E+00	8.39E-03	1.00	6.79E-04
	XE129M	8.772E+00	5%	1	4.511E-01	3.922000E-03	0.000000E+00	1.06E-06	1.00	8.59E-08
	XE131M	2.703E+03	5%	1	1.390E+02	1.439300E-03	0.000000E+00	1.20E-04	1.00	9.72E-06
	XE133	4.360E+05	5%	1	2.242E+04	5.772000E-03	0.000000E+00	7.77E-02	1.00	6.29E-03
	XE133M	1.334E+04	5%	1	6.861E+02	5.069000E-03	0.000000E+00	2.09E-03	1.00	1.69E-04
	XE135	1.197E+05	5%	1	6.156E+03	4.403000E-02	0.000000E+00	1.63E-01	1.00	1.32E-02
	XE135M	5.765E+03	5%	1	2.965E+02	7.548000E-02	0.000000E+00	1.34E-02	1.00	1.09E-03
								0.636		0.527
						Regulatory Limit =		6.3		5

### CASE 3 RESULTS

EAB X/Q (s/m <sup>3</sup> )=	6.00E-04									
Cont Room X/Q (s/m <sup>3</sup> )=	8.50E-04									
Breathing Rate (m <sup>3</sup> /s)=	3.50E-04									
Failed Rods=	98									
Radial Peaking Factor=	1.700									
Days of Decay=	1									
						FGR11&12 DCFs				
		Bundle	Release	Total	Total	W. Body	Inhal	EAB	CRFAS	Cont Room
	Isotope	Activity (Ci)	Fract	DF	Release (Ci)	(Rem-m <sup>3</sup> /Ci-s)	(Rem/Ci)	TEDE	Factor	TEDE
	BR 82	1.698E+03	5%	200.0	5.943E-01	4.810000E-01	1.528100E+03	3.62E-04	1.00	2.84E-04
	BR 83	3.876E+01	5%	200.0	1.357E-02	1.413400E-03	8.917000E+01	2.66E-07	1.00	3.61E-07
	I130	5.233E+03	5%	200.0	1.832E+00	3.848000E-01	2.641800E+03	1.44E-03	1.00	1.47E-03
	I131	2.227E+05	8%	200.0	1.247E+02	6.734000E-02	3.289300E+04	8.66E-01	1.00	1.22E+00
	I132	2.789E+05	5%	200.0	9.762E+01	4.144000E-01	3.811000E+02	3.21E-02	1.00	1.30E-02
	I133	2.204E+05	5%	200.0	7.714E+01	1.087800E-01	5.846000E+03	9.97E-02	1.00	1.35E-01
	I135	3.599E+04	5%	200.0	1.260E+01	3.068780E-01	1.228400E+03	5.57E-03	1.00	4.79E-03
	KR 83M	1.499E+02	5%	1	1.049E+01	5.550000E-06	0.000000E+00	3.49E-08	1.00	2.83E-09
	KR 85	3.102E+03	10%	1	4.343E+02	4.403000E-04	0.000000E+00	1.15E-04	1.00	9.29E-06
	KR 85M	2.185E+03	5%	1	1.530E+02	2.767600E-02	0.000000E+00	2.54E-03	1.00	2.06E-04
	KR 88	7.203E+02	5%	1	5.042E+01	3.774000E-01	0.000000E+00	1.14E-02	1.00	9.24E-04
	XE129M	8.772E+00	5%	1	6.140E-01	3.922000E-03	0.000000E+00	1.44E-06	1.00	1.17E-07
	XE131M	2.703E+03	5%	1	1.892E+02	1.439300E-03	0.000000E+00	1.63E-04	1.00	1.32E-05
	XE133	4.360E+05	5%	1	3.052E+04	5.772000E-03	0.000000E+00	1.06E-01	1.00	8.56E-03
	XE133M	1.334E+04	5%	1	9.338E+02	5.069000E-03	0.000000E+00	2.84E-03	1.00	2.30E-04
	XE135	1.197E+05	5%	1	8.379E+03	4.403000E-02	0.000000E+00	2.21E-01	1.00	1.79E-02
	XE135M	5.765E+03	5%	1	4.036E+02	7.548000E-02	0.000000E+00	1.83E-02	1.00	1.48E-03
								1.368		1.404
						Regulatory Limit =		6.3		5

# CASE 4 RESULTS

EAB X/Q (s/m <sup>3</sup> )=	6.00E-04									
Cont Room X/Q (s/m <sup>3</sup> )=	8.50E-04									
Breathing Rate (m <sup>3</sup> /s)=	3.50E-04									
Failed Rods=	28									
Radial Peaking Factor=	1.700									
Days of Decay=	1									
						FGR11&12 DCFs				
		Bundle	Release	Total	Total	W. Body	Inhal	EAB	CRFAS	Cont Room
	Isotope	Activity (Ci)	Fract	DF	Release (Ci)	(Rem-m <sup>3</sup> /Ci-s)	(Rem/Ci)	TEDE	Factor	TEDE
	BR 82	1.698E+03	5%	200.0	1.698E-01	4.810000E-01	1.528100E+03	1.03E-04	1.00	8.12E-05
	BR 83	3.876E+01	5%	200.0	3.876E-03	1.413400E-03	8.917000E+01	7.59E-08	1.00	1.03E-07
	I130	5.233E+03	5%	200.0	5.233E-01	3.848000E-01	2.641800E+03	4.11E-04	1.00	4.21E-04
	I131	2.227E+05	8%	200.0	3.563E+01	6.734000E-02	3.289300E+04	2.48E-01	1.00	3.49E-01
	I132	2.789E+05	5%	200.0	2.789E+01	4.144000E-01	3.811000E+02	9.17E-03	1.00	3.72E-03
	I133	2.204E+05	5%	200.0	2.204E+01	1.087800E-01	5.846000E+03	2.85E-02	1.00	3.84E-02
	I135	3.599E+04	5%	200.0	3.599E+00	3.068780E-01	1.228400E+03	1.59E-03	1.00	1.37E-03
	KR 83M	1.499E+02	5%	1	2.998E+00	5.550000E-06	0.000000E+00	9.98E-09	1.00	8.08E-10
	KR 85	3.102E+03	10%	1	1.241E+02	4.403000E-04	0.000000E+00	3.28E-05	1.00	2.65E-06
	KR 85M	2.185E+03	5%	1	4.370E+01	2.767600E-02	0.000000E+00	7.26E-04	1.00	5.87E-05
	KR 88	7.203E+02	5%	1	1.441E+01	3.774000E-01	0.000000E+00	3.26E-03	1.00	2.64E-04
	XE129M	8.772E+00	5%	1	1.754E-01	3.922000E-03	0.000000E+00	4.13E-07	1.00	3.34E-08
	XE131M	2.703E+03	5%	1	5.406E+01	1.439300E-03	0.000000E+00	4.67E-05	1.00	3.78E-06
	XE133	4.360E+05	5%	1	8.720E+03	5.772000E-03	0.000000E+00	3.02E-02	1.00	2.44E-03
	XE133M	1.334E+04	5%	1	2.668E+02	5.069000E-03	0.000000E+00	8.11E-04	1.00	6.57E-05
	XE135	1.197E+05	5%	1	2.394E+03	4.403000E-02	0.000000E+00	6.32E-02	1.00	5.12E-03
	XE135M	5.765E+03	5%	1	1.153E+02	7.548000E-02	0.000000E+00	5.22E-03	1.00	4.23E-04
								0.391		0.401
						Regulatory Limit =		6.3		5

## CASE 5 RESULTS

EAB X/Q (s/m <sup>3</sup> )=	6.00E-04									
Cont Room X/Q (s/m <sup>3</sup> )=	8.50E-04									
Breathing Rate (m <sup>3</sup> /s)=	3.50E-04									
Failed Rods=	142									
Radial Peaking Factor=	1.700									
Days of Decay=	1									
						FGR11&12 DCFs				
		Bundle	Release	Total	Total	W. Body	Inhal	EAB	CRFAS	Cont Room
	Isotope	Activity (Ci)	Fract	DF	Release (Ci)	(Rem-m <sup>3</sup> /Ci-s)	(Rem/Ci)	TEDE	Factor	TEDE
	BR 82	1.698E+03	5%	200.0	8.611E-01	4.810000E-01	1.528100E+03	5.25E-04	1.00	4.12E-04
	BR 83	3.876E+01	5%	200.0	1.966E-02	1.413400E-03	8.917000E+01	3.85E-07	1.00	5.23E-07
	I130	5.233E+03	5%	200.0	2.654E+00	3.848000E-01	2.641800E+03	2.09E-03	1.00	2.14E-03
	I131	2.227E+05	8%	200.0	1.807E+02	6.734000E-02	3.289300E+04	1.26E+00	1.00	1.77E+00
	I132	2.789E+05	5%	200.0	1.414E+02	4.144000E-01	3.811000E+02	4.65E-02	1.00	1.89E-02
	I133	2.204E+05	5%	200.0	1.118E+02	1.087800E-01	5.846000E+03	1.45E-01	1.00	1.95E-01
	I135	3.599E+04	5%	200.0	1.825E+01	3.068780E-01	1.228400E+03	8.07E-03	1.00	6.94E-03
	KR 83M	1.499E+02	5%	1	1.520E+01	5.550000E-06	0.000000E+00	5.06E-08	1.00	4.10E-09
	KR 85	3.102E+03	10%	1	6.293E+02	4.403000E-04	0.000000E+00	1.66E-04	1.00	1.35E-05
	KR 85M	2.185E+03	5%	1	2.216E+02	2.767600E-02	0.000000E+00	3.68E-03	1.00	2.98E-04
	KR 88	7.203E+02	5%	1	7.306E+01	3.774000E-01	0.000000E+00	1.65E-02	1.00	1.34E-03
	XE129M	8.772E+00	5%	1	8.897E-01	3.922000E-03	0.000000E+00	2.09E-06	1.00	1.69E-07
	XE131M	2.703E+03	5%	1	2.742E+02	1.439300E-03	0.000000E+00	2.37E-04	1.00	1.92E-05
	XE133	4.360E+05	5%	1	4.422E+04	5.772000E-03	0.000000E+00	1.53E-01	1.00	1.24E-02
	XE133M	1.334E+04	5%	1	1.353E+03	5.069000E-03	0.000000E+00	4.12E-03	1.00	3.33E-04
	XE135	1.197E+05	5%	1	1.214E+04	4.403000E-02	0.000000E+00	3.21E-01	1.00	2.60E-02
	XE135M	5.765E+03	5%	1	5.847E+02	7.548000E-02	0.000000E+00	2.65E-02	1.00	2.14E-03
								1.982		2.035
						Regulatory Limit =		6.3		5

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RRRRRR      AAAA      PPPPP      TTTTTTTTTT      OOO      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPP      TTTTTTTTTT      OOOOOOO      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPP      TT      OO      2.08B      OO      RRRRRRRR
RRRRRRR      AA      AA      PPPPP      TT      OO      OO      RRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OOOOOOO      RR      RR
RR      RR      AA      AA      PP      TT      OOO      RR      RR

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IIIIIIIIII NN      NN PPPPP      UU      UU TTTTTTTTTT
IIIIIIIIII NNN      NN PPPPPPP      UU      UU TTTTTTTTTT
II      NNNN      NN PP      PP UU      UU      TT
II      NN NN      NN PP      PP UU      UU      TT
II      NN NN      NN PP      PP UU      UU      TT
II      NN NN      NN PPPPPPP      UU      UU      TT
II      NN NN      NN PPPPP      UU      UU      TT
II      NN NN      NN PP      UU      UU      TT
II      NN NN      NN NN PP      UUU      UUU      TT
IIIIIIIIII NN      NNN PP      UUUUUUU      TT
IIIIIIIIII NN      NN PP      UU      TT

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Execution Time: 19:49:15 on 09/18/00

#### MODELED NUCLIDE PARAMTERS

Isotope	Group	Half-Life		Whole Body (Rem-m3/Ci-s)	Thyroid (Rem/Ci)	Inhalation (Rem/Ci)
Br-82	Halogens	1.4710E+000	Dys	4.8100E-001	0.0000E+000	1.5281E+003
Br-83	Halogens	2.4000E+000	Hrs	1.4134E-003	0.0000E+000	8.9170E+001
I-130	Halogens	1.2360E+001	Hrs	3.8480E-001	0.0000E+000	2.6418E+003
I-131	Halogens	8.0400E+000	Dys	6.7340E-002	0.0000E+000	3.2893E+004
I-132	Halogens	2.2800E+000	Hrs	4.1440E-001	0.0000E+000	3.8110E+002
I-133	Halogens	2.0800E+001	Hrs	1.0878E-001	0.0000E+000	5.8460E+003
I-135	Halogens	6.5700E+000	Hrs	3.0688E-001	0.0000E+000	1.2284E+003
Kr-83m	Noble Gas	1.8600E+000	Hrs	5.5500E-006	0.0000E+000	0.0000E+000
Kr-85	Noble Gas	1.0730E+001	Yrs	4.4030E-004	0.0000E+000	0.0000E+000
Kr-85m	Noble Gas	4.4800E+000	Hrs	2.7676E-002	0.0000E+000	0.0000E+000
Kr-88	Noble Gas	2.8400E+000	Hrs	3.7740E-001	0.0000E+000	0.0000E+000
Xe-129m	Noble Gas	8.8900E+000	Dys	3.9220E-003	0.0000E+000	0.0000E+000
Xe-131m	Noble Gas	1.1900E+001	Dys	1.4393E-003	0.0000E+000	0.0000E+000
Xe-133	Noble Gas	5.2430E+000	Dys	5.7720E-003	0.0000E+000	0.0000E+000
Xe-133m	Noble Gas	2.1900E+000	Dys	5.0690E-003	0.0000E+000	0.0000E+000
Xe-135	Noble Gas	9.1000E+000	Hrs	4.4030E-002	0.0000E+000	0.0000E+000
Xe-135m	Noble Gas	1.5300E+001	Min	7.5480E-002	0.0000E+000	0.0000E+000

FILTER PARAMETERS  
No Filters

#### MODEL PARAMETERS

Core Power Level = 0.00 MW  
Core Decay Time = 0.000000 Sec  
Decay Not Enabled

#### NODE PARAMETERS

Name Volume (cu.ft.)  
ControlRoom 2.530E+005 Inventory Tracked  
OutofCR 1.000E+000 Inventory Not Tracked

#### RELEASE POINTS

Name  
Containment\_Vent

#### RECEIPT POINTS

Name  
EAB  
CR\_Intake

#### REMOVAL PARAMETERS

No Removal Mechanisms

#### INITIAL INVENTORIES

## RELEASE PARAMETERS

0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Br-82	8.2540E-005 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Br-83	1.8840E-006 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	I-130	2.5440E-004 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	I-131	1.7320E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	I-132	1.3560E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	I-133	1.0710E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	I-135	1.7500E-003 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Kr-83m	1.4570E-003 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Kr-85	6.0320E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Kr-85m	2.1240E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Kr-88	7.0030E-003 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-129m	8.5280E-005 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-131m	2.6280E-002 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-133	4.2390E+000 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-133m	1.2970E-001 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-135	1.1640E+000 Ci/s
0.000E+000 Sec to 2.000E+000 Hrs	Containment_Vent	Xe-135m	5.6050E-002 Ci/s

## DIFFUSION PARAMETERS

Diffusion from Containment\_Vent to EAB  
 0.000E+000 Sec to 2.000E+000 Hrs at 6.0000E-004 s/cu.m.

Diffusion from Containment\_Vent to CR\_Intake  
 0.000E+000 Sec to 2.000E+000 Hrs at 8.5000E-004 s/cu.m.

## FLOW PARAMETERS

Flow#1 from CR\_Intake to ControlRoom  
 0.000E+000 Sec to 4.800E+001 Hrs at 1.0000E+004 cfm

Flow#2 from ControlRoom to OutofCR  
 0.000E+000 Sec to 4.800E+001 Hrs at 1.0000E+004 cfm

## DOSE LOCATIONS

EAB  
 0.000E+000 Sec to 2.000E+000 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
 0.000E+000 Sec to 2.000E+000 Hrs at Occupancy Factor=1.000000

ControlRoom  
 0.000E+000 Sec to 4.800E+001 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
 0.000E+000 Sec to 4.800E+001 Hrs at Occupancy Factor=1.000000

CR\_Intake  
 0.000E+000 Sec to 4.800E+001 Hrs at Breathing Rate=3.5000E-004 cu.m./s  
 0.000E+000 Sec to 4.800E+001 Hrs at Occupancy Factor=1.000000

## FILTER PARAMETERS

No Filters

## REMOVAL PARAMETERS

No Removal Mechanisms

```

RRRRRRR      AAAA      PPPPP      TTTTTTTTTT      000      RRRRRR
RRRRRRRR      AAAAAA      PPPPPPPP      TTTTTTTTTT      0000000      RRRRRRRR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AAA      AAA      PP      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      PP      TT      OO      OO      RR      RR
RRRRRRRR      AAAAAAAAAA      PPPPPPPP      TT      OO      2.08B      OO      RRRRRRRR
RRRRRRR      AA      AA      PPPPP      TT      OO      OO      RRRRRRRR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      OO      OO      RR      RR
RR      RR      AA      AA      PP      TT      0000000      RR      RR
RR      RR      AA      AA      PP      TT      000      RR      RR

```

```

      000      UU      UU      TTTTTTTTTT      PPPPP      UU      UU      TTTTTTTTTT
0000000      UU      UU      TTTTTTTTTT      PPPPPPPP      UU      UU      TTTTTTTTTT
      OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
OO      OO      UU      UU      TT      PP      PP      UU      UU      TT
OO      OO      UU      UU      TT      PPPPPPPP      UU      UU      TT
OO      OO      UU      UU      TT      PPPPP      UU      UU      TT
OO      OO      UU      UU      TT      PP      UU      UU      TT
OO      OO      UUU      UUU      TT      PP      UUU      UUU      TT
0000000      UUUUUUU      TT      PP      UUUUUUU      TT
      000      UU      TT      PP      UU      TT

```

Time = 0.000000 Seconds  
ClockTime = 6.879000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.000000	0.000000	0.000000	0.000000
ControlRoom	0.000000	0.000000	0.000000	0.000000
CR_Intake	0.000000	0.000000	0.000000	0.000000

Time = 7200.000000 Seconds  
ClockTime = 8.972000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.399279	0.000000	0.967273	1.366552
ControlRoom	0.025565	0.000000	1.083820	1.109385
CR_Intake	0.565646	0.000000	1.370303	1.935949

```

Isotope      ControlRoom
Br-82E      4.980847E-004
Br-83E      1.136893E-005
I-130E      1.535168E-003
I-131E      1.045169E-001
I-132E      8.182734E-002
I-133E      6.462912E-002
I-135E      1.056031E-002
Kr-83m      8.792215E-003
Kr-85      3.639989E-001
Kr-85m      1.281720E-001
Kr-88      4.225936E-002
Xe-129m      5.146192E-004
Xe-131m      1.585857E-001
Xe-133      2.558010E+001
Xe-133m      7.826701E-001
Xe-135      7.024117E+000
Xe-135m      3.382317E-001

```

Time = 172800.000000 Seconds  
ClockTime = 39.516000 Seconds

	WholeBody	Thyroid	Inhalation	TEDE
EAB	0.399279	0.000000	0.967273	1.366552
ControlRoom	0.032322	0.000000	1.370303	1.402626
CR_Intake	0.565646	0.000000	1.370303	1.935949