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September 28, 2001

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
Attn: Mr. Robert Clark (Mail Stop O-8-E9)
Project Directorate I-1

Subject: Revision to Emergency Plan Implementing Procedures
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Gentlemen:

In accordance with 10 CFR 50.4(b)(5), enclosed are revisions to Ginna Station Emergency Plan Implementing Procedures (EPIPs).

We have determined, per the requirements of 10 CFR 50.54(q), that these procedure changes do not decrease the effectiveness of our Nuclear Emergency Response Plan.

Very truly yours,

Peter S. Polfleit
Corporate Nuclear Emergency Planner

Enclosures

xc: USNRC Region 1 (2 copies of letter and 2 copies of each procedure)
Resident Inspector, Ginna Station (1 copy of letter and 1 copy of each procedure)
RG&E Nuclear Safety and Licensing (1 copy of letter)
Dr. Robert C. Mecredy (2 copies of letter only)

PSP/jtw

A045

PROCEDURE	REVISION NUMBER
EPIP 2-2	11
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EPIP 2-18	13
EPIP 5-1	22

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

PROCEDURE NO. EPIP 2-2 REV. NO. 11

OBTAINING METEOROLOGICAL DATA AND FORECASTS AND THEIR USE IN EMERGENCY DOSE ASSESSMENT

RESPONSIBLE MANAGER

09/28/01
EFFECTIVE DATE

CATEGORY 1.0

THIS PROCEDURE CONTAINS 6 PAGES

EPIP 2-2

OBTAINING METEOROLOGICAL DATA AND FORECASTS AND THEIR USE IN EMERGENCY DOSE ASSESSMENT

1.0 PURPOSE:

The purpose of this procedure is to provide guidance on obtaining meteorological data and forecast information from various sources for use in emergency dose assessment. Such information is useful in assessing the extent of plume dispersion expected, in defining the current and future downwind affected areas, and in estimating radiological levels in the affected areas.

2.0 RESPONSIBILITY:

The TSC or EOF Dose Assessment Manager is responsible for implementing this procedure.

3.0 REFERENCES:

3.1 Developmental References

3.1.1 Nuclear Emergency Response Plan

3.1.2 EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions For Nuclear Incidents (1991)

3.2 Implementing References

3.2.1 EPIP 2-1, Protective Action Recommendations

3.2.2 EPIP 2-4, Emergency Dose Projections-Manual Method

3.2.3 EPIP 2-5, Emergency Dose Projections - Personal Computer Method

3.2.4 EPIP 2-6, Emergency Dose Projections - MIDAS Program

4.0 PRECAUTIONS:

None.

5.0 PREREQUISITES:

5.1 An emergency has been declared in accordance with EPIP 1-0, Ginna Station Event Evaluation and Classification.

6.0 ACTIONS

6.1 Obtaining Weather Forecasts

6.1.1 Request the current forecast and the forecast for the next 6 hours by contacting the National Weather Service in Buffalo at (800) 462-7751 or 565-0013 or 565-0014. If unable to contact Buffalo NWS, contact Binghamton at (607) 798-6625 or (607) 729-7629.

6.1.2 For follow-up forecast information, you may also check the Internet for forecast information at the following sites:

A. National Weather Service - Buffalo @ www.wbuf.noaa.gov

B. www.weather.com
(In the local forecast section, type Rochester, NY)

C. Channel 13 @ www.Rochestertoday.com

D. www.nysemo.state.ny.us
(Go to "links"; scroll down to "weather"; and obtain data from any of the listed sources.)

6.2 Obtaining Current Ginna Weather Conditions

6.2.1 Use of the Plant Process Computer System (PPCS) (Preferred Method)

6.2.1.1 From the top menu, select "Emergency Plan Menu". Select "Radiation Monitors". At the bottom are the instantaneous and 15 minute averages for the Ginna primary weather tower.

6.2.2 Access of Main Weather Tower Meteorological Data

NOTE: TIMES INDICATED FOR WEATHER TOWER DATA ARE EASTERN DAYLIGHT.

6.2.2.1 Turn on Dose Assessment PC Terminal, monitor and printer.

6.2.2.2 Select the "Weather Tower EPIP 2-2" icon from the Dose Assessment menu.

6.2.2.3 Smartcom II will automatically load and dial the Primary Tower computer.

6.2.2.4 Type "AV"; depress RETURN.

6.2.2.5 Data will be displayed.

6.2.2.6 Depress F3. "Printer Activate" will be displayed.

6.2.2.7 Type "AV"; depress RETURN.

6.2.2.8 Wait until meteorological data is displayed.

6.2.2.9 Depress F3. "Printer Activate" display will terminate and printer will complete printout.

6.2.2.10 To exit, press F1.

NOTE: IF CURSOR AT "ENTER SELECTION" IS NOT FLASHING, DEPRESS ESCAPE. CURSOR SHOULD BEGIN TO FLASH AND ALLOW ENTRY OF "0, END COMMUNICATION/PROGRAM".

6.2.2.11 Select "0, End Communication/Program".

6.2.2.12 Select "E, Exit".

6.2.3 Access of Backup Tower Meteorological Data

6.2.3.1 Turn on Dose Assessment PC terminal, monitor and printer.

6.2.3.2 Select the "Backup Weather Tower EPIP 2-2" icon from the Dose Assessment menu.

6.2.3.3 Smartcom II will automatically load and dial the backup weather tower computer.

NOTE: ENSURE "CAPS LOCK" IS ON.

6.2.3.4 Type "G" to obtain 5 minute values or "H" to obtain hourly data.

6.2.3.5 Depress F3. "Printer Activate" will be displayed.

6.2.3.6 Type "G" to obtain 5 minute values or "H" to obtain hourly data.

6.2.3.7 Wait until meteorological data is displayed.

6.2.3.8 Depress F3. "Printer Activate" will terminate and printer will complete printout.

6.2.3.9 To determine atmospheric stability from wind fluctuation recorded by the backup tower, use the following tables:

6.2.3.10 Initial Estimate of Atmospheric Stability

Wind Fluctuation (SD3)	Stability
< 22.5	A - Extremely Unstable
< 22.5 and > 17.5	B - Moderately Unstable
< 17.5 and > 12.5	C - Slightly Unstable
< 12.5 and > 7.5	D - Neutral
< 7.5 and > 3.8	E - Slightly Stable
< 3.8	F - Moderately Stable

Go to either step 6.2.3.11 for day time and 6.2.3.12 for nighttime.

6.2.3.11 Daytime

Stability from Step 6.2.3.10	Wind Speed (MPH)	Final Stability
A	< 6.5	A
	> 6.5 and < 8.6	B
	> 8.6 and < 13.0	C
	> 13.0	D
B	< 8.6	B
	> 8.6 and < 13.0	C
	> 13.0	D
C	< 13.0	C
	> 13.0	D
D, E or F	ANY	D

6.2.3.12 Nighttime

Stability from Step 6.2.3.10	Wind Speed (MPH)	Final Stability
A	< 6.3	F
	> 6.3 and < 7.8	E
	> 7.8	D

Stability from Step 6.2.3.10	Wind Speed (MPH)	Final Stability
B	< 5.2	F
	> 5.2 and < 6.5	E
	> 6.5	D
C	< 5.2	E
	> 5.2	D
D	ANY	D
E	< 10.8	E
	> 10.8	D
F	< 6.5	F
	> 6.5 and < 10.8	E
	> 10.8	D

6.2.3.13 To exit, press F1.

NOTE: IF CURSOR AT "ENTER SELECTION" IS NOT FLASHING, DEPRESS ESCAPE. CURSOR SHOULD BEGIN TO FLASH AND ALLOW ENTRY OF "0, END COMMUNICATION/PROGRAM".

6.2.3.14 Select "0, End Communication/Program".

6.2.3.15 Select "E, Exit".

6.2.4 Other Meteorological Sources

In the event that the PPCS and both primary and backup towers are unavailable, use the following sources:

a. Primary Meteorological Tower - Control Room Readout
b. Substation 13A Backup Meteorological Tower - Local chart recorder printout
c. WOKR Staff Meteorologists: 334-8460 or 334-8700 (9 am - 5:30 pm) 334-8743 (nights and weekends)
d. Energy Control Center: 8944

e. The following chart can be used to determine stability class when only wind speed is available:

A = Extremely unstable conditions
B = Moderately unstable conditions
C = Slightly unstable conditions
D = Neutral conditions[a]
E = Slightly stable conditions
F = Moderately stable conditions

	Daytime Insolation			Nighttime Conditions	
Surface Wind Speed (m/sec)	Strong[b]	Moderate	Slight	Thin overcast or > 4/8 Cloudiness[c]	<3/8 Cloudiness
<2	A	A-B	B		
2	A-B	B	C	E	F
4	B	B-C	C	D	E
6	C	C-D	D	D	D
>6	D	D	D	D	D

a = Applicable to heavy overcast, day or night.

b = Incoming solar radiation

c = The degree of cloudiness is defined as that fraction of the sky above the horizon which is covered by clouds.

NOTE: (METERS PER SECOND) ÷ (0.45) = MPH.

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

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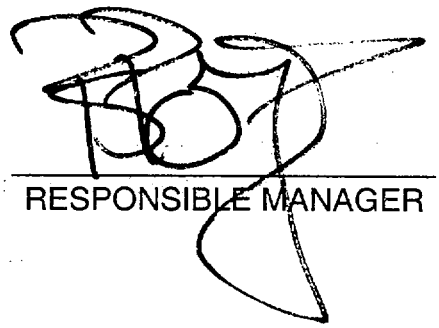
PROCEDURE NO. EPIP 2-3 REV. NO. 14

EMERGENCY RELEASE RATE DETERMINATION



RESPONSIBLE MANAGER

09/28/01

EFFECTIVE DATE

CATEGORY 1.0

THIS PROCEDURE CONTAINS 23 PAGES

EPIP 2-3

EMERGENCY RELEASE RATE DETERMINATION

1.0 PURPOSE

1.1 The purpose of this procedure is to provide method of determining the release rates of radioactive material from the plant vent, containment vent, air ejector, and Atmosphere Relief Valve, ARV, and code safety valves during accident conditions.

2.0 RESPONSIBILITY

2.1 The TSC Dose Assessment Manager or EOF Dose Assessment Manager is responsible for implementing this procedure.

3.0 REFERENCES

3.1 Developmental References

3.1.1 Eberline System Server Operation Manual

3.1.2 CH-RETS-SPING High Range Effluent Monitors (SPING-4) RM-12A, RM-14A, RM-15A, R-31 and R-32 Operation.

3.1.3 Technology for Energy Corporation Report No. R-81-020, Calculation of Dose to Activity Conversion Curves for Determination of Activity Concentrations Within Steam Lines A & B of Ginna Nuclear Station, August 1981.

3.1.4 Knoll, W.K., "Dose Rate to Activity Concentration Algorithm", internal memorandum, May 25, 1989.

3.1.5 EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. (1991).

3.1.6 I&E Information Notice 86-30 Design Limitation of Gaseous Effluent Monitoring System.

3.1.7 40CFR302.4 EPA reporting criteria for radioactive effluents.

4.0 PRECAUTIONS

4.1 The assumed initial average gamma energy for noble gas, as measured by the SPING middle and upper ranges, is 0.5 MEV (from t=0 to 4.5 hours after shutdown, based on References 3.1.4 and 3.1.5). The technical basis behind this is found in Attachment 5.

Attachment 2 provides an average energy vs time after shutdown for help in interpreting the SPING readings.

4.2 See Attachment 1 of this procedure for alarm set points.

4.3 The alert alarm will clear when the level falls below 80% of the set point.

NOTE: TWO SEPARATE CHANNELS CAN BE USED FOR BACKGROUND SUBTRACTION. NORMALLY CH. 4 IS USED, BUT THE CPM CAN BE BACK CALCULATED FROM CH. 8 IF CH. 4 IS OFF SCALE.

4.4 There have been two generic problems identified with SPING units and listed in I&E information Notice 86-30.

a. In extremely high dose fields, the electronics can fail. At Ginna Station, the projected doses even in a complete core release should not cause this failure based on a letter from George Daniels to the NRC addressing this concern. (Reference 3.1.6)

b. When the low range gas detector is exposed to increases of ~ 2 decades, it may absorb some noble gas on the inner and outer mylar windows and when the release rates decrease, they may not return to the correct concentration indications immediately. This should not be a serious problem since the normal plant monitoring systems will be reading correctly.

NOTE: HIGH ALARM IS A NORMAL STATUS CONDITION.

4.5 "Normal" indicated by the channel status means that the data for that time period has been normalized. In other words, any portion of data accumulated for that time period when the unit was another status is dropped.

4.6 It will usually take 10 min for a status change such as failed to clear (this is the time period of the next data update).

4.7 The paper change switch provides a short term means of preserving the contents of the printer buffer when replenishing the paper supply or repair.

5.0 PREREQUISITES:

None.

6.0 ACTIONS:

6.1 The following sample points are available on the Eberline SS-1:

See Attachment 1. The concentration value of the noble gas calculated is dependent upon the average gamma energy per disintegration of the gas mixture. Concentration values should be corrected for actual isotopic mixture. The correction factor programmed in the Eberline SS-1 is for 0.5 MEV as indicated in Reference 3.1.4 and 3.1.5 .

6.1.1 Containment Vent RM-12A Unit

Channel #	Type	Units	Range	Bkgnd Subtract Fixed + chan 2
1	Particulate - Beta	μCi	1E-6 to 1E+0	None
2	Particulate - Alpha	CPM	1E+0 to 1E+6	Chan 4
3	Iodine - 131	μCi	1E-5 to 1E+6	None
4	Background Iodine	CPM	1E+0 to 1E+6	None
5	Noble Gas - Low	μCi/cc	1E-8 to 1E-2	Fixed
6	Area Monitor	mR/h	1E-3 to 1E+3	Fixed
*7	Noble Gas-Mid	μCi/cc	1E-5 to 1E+1	Fixed
8	Gamma Background	CPM	1E+0 to 1E+6	Fixed
*9	Noble Gas-High	μCi/cc	1E-3 to 1E +3	Fixed

* Precaution 4.1

6.1.2 Plant Vent RM-14A Unit

Channel #	Type	Units	Range	Bkgnd Subtract Fixed + chan 2
1	Particulate - Beta	μCi	1E-6 to 1E+0	None
2	Particulate - Alpha	CPM	1E+0 to 1E+6	Chan 4
3	Iodine - 131	μCi	1E-5 to 1E+6	None
4	Background Iodine	CPM	1E+0 to1E+6	None
5	Noble Gas - Low	μCi/cc	1E-8 to 1E-2	Fixed
6	Area Monitor	mR/h	1E-3 to 1E+3	Fixed
*7	Noble Gas-Mid	μCi/cc	1E-5 to 1E+1	Fixed
8	Gamma Background	CPM	1E+0 to 1E+6	Fixed
*9	Noble Gas-High	μCi/cc	1E-3 to 1E+3	Fixed

* Precaution 4.1

6.1.3 Air Ejector RM-15A Unit

Channel #	Type	Units	Range	Bkgnd Subtract Fixed + chan 2
5	Noble Gas - Low	μCi/cc	1E-8 to 1E-2	Fixed
6	Area Monitor	mR/h	1E-3 to 1E+3	Fixed
*7	Noble Gas-Mid	μCi/cc	1E-5 to 1E+1	Fixed
8	Gamma Background	CPM	1E+0 to 1E+6	Fixed
*9	Noble Gas-High	μCi/cc	1E-3 to 1E+3	Fixed

* Precaution 4.1

6.1.4 Steam Line Monitors Unit

Channel #	Type	Units	Range	Bkgnd Subtract
1 R-31 "A" Steam	Gamma	mR/h	1E-2 to 1E+4	Fixed
2 R-32 "B" Steam	Gamma	mR/h	1E-2 to 1E+4	Fixed

6.2 To display the Eberline SS-1 System Server Screen from Windows, select the Eberline SPING-SS-1 icon. The program automatically boots to SS-1 screen.

NOTE: PRESS THE ESCAPE KEY TO RETURN TO THE MAIN MENU.

6.3 To obtain the current data from a unit, perform the following:

6.3.1 Highlight "display status" using the arrow keys.

6.3.2 Press enter.

6.3.3 Highlight "data" then "group display".

6.3.4 Select the group number of interest and press enter.

- RM12A for containment vent
- RM14A for plant vent
- RM15A for air ejector
- DAM for the steam line monitor

6.3.5 Observe data.

6.3.6 If a print out of the data is desired, highlight "print" using the arrow keys and press enter.

6.4 To obtain a history of the data from a unit, perform the following:

6.4.1 Highlight "data" using the arrow keys.

6.4.2 Press enter.

6.4.3 Select one of the following:

- 10 minute history
- 1 hour history
- 1 day history

6.4.4 Select the unit of interest:

- RM12A for containment vent
- RM14A for plant vent
- RM15A for air ejector
- DAM for the steam line monitor.

6.4.5 Select the channel of interest:

RM-12A or RM-14A	RM-15A	DAM
1 - Beta particulate 2 - Alpha particulate 3 - Iodine 4 - Iodine background 5 - Low range noble gas 6 - Gamma area 7 - Mid-range noble gas 8 - Gamma background 9 - High range noble gas	 4 - Iodine background 5 - Low range noble gas 6 - Gamma area 7 - Mid-range noble gas 8 - Gamma background 9 - High range noble gas	1- R-31 - A steam line 2- R-32 - B steam line

6.4.6 Observe data.

6.4.7 With "Toggle"highlighted, press "enter" to toggle until "time" is displayed along the left hand side of the chart.

6.4.8 If a print out of the data is desired, highlight "print" using the arrow keys and press enter.

6.4.9 To obtain the release rate, enter the flow rate then press enter.

6.4.10 If a print out of the data is desired, highlight "print" using the arrow keys and press enter.

6.4.11 Release rates can be converted to Ci/sec by multiplying 1E-6 to convert μCi to curies and dividing by 60. Dose Assessment can make offsite dose projections entering this release rate into the dose assessment computer programs.

6.4.12 Release rates can be refined by lab analysis of grab samples which can be obtained from the appropriate SPING field unit.

6.5 Radioactivity release from steam line code safety valves and ARV's.

6.5.1 Primary to secondary leakage is indicated by an increased reading of Air Ejector Monitor or Steam Generator Blowdown Monitor, or an unexpected rise in water level of one steam generator. Air ejector release rates are determined by steps described in section 6.5 through 6.6. The first steam line monitor to alarm should be the leaking steam generator.

6.5.2 If steam is released by the safety valves or PORV's determine the time elapsed since the shutdown of the reactor and select the dose rate vs concentration conversion factor on Attachment 3 corresponding to the nearest elapsed time since reactor shutdown. Conversion factors were calculated for various times after shutdown to reflect radioactive decay of the isotopic mix.

6.5.3 Determine, using the data calculation sheet, (Attachment 4) the equivalent μCi/cc of the radioactivity released by multiplying the appropriate conversion factor (μCi/cc per mR/hr) by the steam line dose rate (mR/hr) from Attachment 3 or activity from the steam generator blowdown if the S/G is water solid.

6.6 From the PPCS or by observation, determine the period of time and number of the ARV and steam relief valves which were open. Were they open coincidently? Was the turbine driven auxiliary feedwater pump being driven from the faulted steam generator.

6.7 Determine the maximum flow rate through steam valves relieving simultaneously to atmosphere by adding the flow rates from each valve on the data sheet.

ARV	= 153,900 cu. ft/hr = 1.33 E6 cc.sec
Each Safety	= 333,000 cu. ft/hr = 2.65 E6 cc/sec
Turbine Driven Auxiliary Feedwater	= 7,106 cu. ft/hr = 5.59 E4 cc/sec

For water solid steam generator*

Each Safety	= 2000 gal/min = 1.3 E5 cc/sec
ARV	= 1000 gal/min = 6.5 E4 cc/sec

*These values are based on vendor information provided for the 1982 steam generator tube rupture report.

6.8.1 Determine on the data sheet the Ci/sec release rate of radioactivity by multiplying the μCi/cc released (determined in 6.7.5) by 1E-6 Ci/μCi. (1E-6 converts μCi to Ci) that answer multiplied by the total release rate of steam (determined in 6.9) will yield a release rate in Ci/sec. See attached data calculation sheet Attachment 4.

6.9 A release through the S/G Safety and ARV's can be calculated using EPIP 2-5. Information on S/G release rates and total curies released can be obtained by using the PPCS monitors and calling up the SPING data, Page 2 of 2 from the Event printouts.

6.10 Waterborne or Surface Spill

6.10.1 To calculate volume released, try to obtain the initial and final levels and calculate difference. If the initial level is unknown, assume the container was full. If the final level is unknown, assume container is empty. Attachment 6 has volumes for some of the plant tanks.

6.10.2 To calculate activity, obtain a sample from the tank and perform an isotopic identification. If unable to perform an isotopic analysis, perform a gross beta/gamma analysis. If the container is empty and no sample can be obtained, correlate the effluent release monitor reading to a radioactive concentration. If release was unmonitored, look at the historical data from past analysis and if it is believed that the activity in the container did not deviate from the historical data, use the historical data activity.

6.10.3 Using the appropriate conversation factors, calculate the total activity released.

6.10.4 Using isotopic analysis or historical data, indicate the isotopic mix of the release in μCi/ml.

6.11 Notification of EPA (40 CFR302.6)

6.11.1 Using Attachment 7, determine if the release has exceed the EPA RQ curie values for any 24 hour period.

6.11.2 If the RQ curie values have been exceed for any 24 hour period, then inform the EPA.

EPA National Response Center
9-1-800-424-8802
or
9-1-202-426-2675

6.11.3 If you call the EPA, within 4 hours inform the NRC that you have notified the EPA I.A.W. 40CFR302.6 per 10CFR 50.72 (b) (2) (vi).

7.0 **ATTACHMENTS:**

1. SPING Alarm Setpoints

2. Noble Gas Mixture

3. Factors to convert steam line monitor dose rates to activity concentration.

4. Radioactivity release through steam vents data calculation sheet.

5 Calculation of the Gamma Becquerel MeV/μCi constant for ^{133}Xe and ^{85}Kr for determination of activity released.

6. Determination of Release from waterborne or surface spill .

7. 40CFR302.4, Appendix B, ch. 1

Attachment 1

RM-12A Containment Vent High Range
Effluent Monitor

SPING Alarm Setpoints

CHANNEL	TREND ALARM	RELEASE RATE LIMIT	HIGH ALARM SETPOINT	WARNING ALARM SETPOINT
01-Beta Particulate	100%/minute	2.57E-07 μCi/cc	1.90E-01 μCi	9.00E-02 μCi/cc
02-Alpha Particulate	N/A	2.57E-07 μCi/cc	3.00E+02 cpm	2.00E+02 cpm
03-Iodine - 131	100%/minute	1.10E-08 μCi/cc	2.00E-02 μCi	1.00E-02 μCi
05-Low Range Gas	40%/minute	2.00E-01 μCi/cc	4.00E-02 μCi/cc	2.00E-02 μCi
06-Area Gamma	N/A	N/A	1.00E+02 mRad/hr	5.00+00 mRad/hr
07-Mid Range Gas	N/A	2.00E-01 μCi/cc	2.00E-01 μCi/cc	8.00-02 μCi/cc
09-High Range Gas	N/A	2.00E-01 μCi/cc	2.00E+00 μCi/cc	2.00E μCi/cc

* The alarm values for these fixed filters represent the number of microcuries collected in one hour of sampling to give the specified fraction of the release rate limit. The containment flow rate was assumed to be 11,000 cfm using either the A and B fans or 3.1 E+8 cc/min.

** Trend alarms indicate the percent per minute increase over the last channel reading.

Attachment 1
SPING Alarm Setpoints

RM-14A Plant Vent High Range Effluent Monitor

CHANNEL	TREND ALARM**	RELEASE RATE LIMIT	HIGH ALARM SET POINT	WARNING ALARM SETPOINT
01Beta-Particulate	100%/minute	2.90E-08 μCi/cc	4.12E-02 μCi	2.00E-02 μCi
02-Alpha Particulate	N/A	2.90E-08 μCi/cc	3.00E+02 cpm	2.00+02 cpm
03-Iodine - 131	100%/minute	1.75E-09 μCi/cc	1.79-03 μCi	8.95E-04 μCi
05-Low Range Gas	40%/minute	1.80E-02 μCi/cc	6.92E-03 μCi/cc	3.46E-03 μCi/cc
06-Area Gamma	N/A	N/A	1.00E+02 mRad/hr	5.00E+00 mRad/hr
07-Mid Range Gas	N/A	1.80E-02 μCi/cc	3.46E-02 μCi/cc	1.73E-02 μCi/cc
09-High Range Gas	N/A	1.80E-02 μCi/cc	1.73E-01 μCi/cc	8.65E-02 μCi/cc

* The alarm values for these fixed filters represent the number of microcuries collected in one hour of sampling to give the specified fraction of the release rate limit. The plant vent flow rate was assumed to be 76,000 cfm or 2.15 E+9 cc/min.

** Trend alarms indicate the percent per minute increase over the last channel reading.

SPRING Alarm Setpoint

RM-15A Ejector High Performance Effluent Monitor

DIRECT Alignment

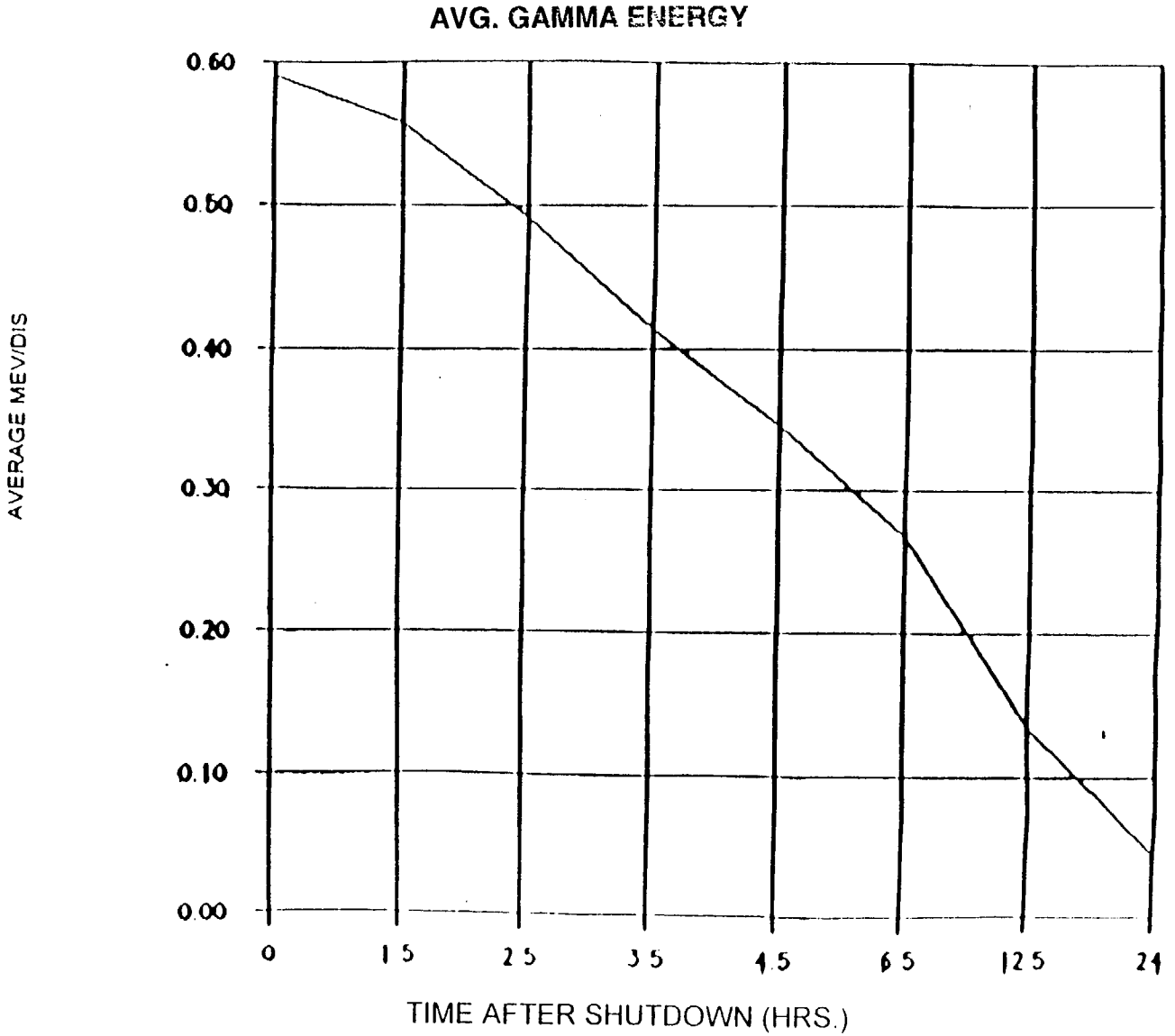
CHANNEL	TREND ALARM	RELEASE RATE LIMIT	HIGH ALARM SETPOINTS	WARNING ALARM SETPOINTS
05-Low Range Gas	N/A	3.14E0 μCi/cc	3.14E0 μCi/cc	3.14E-02 μCi/cc
06-Area Gamma	N/A	N/A	1.00E+02 mRad/hr	5.00E+00 mRad/hr
07-Mid Range Gas	N/A	3.14E0 μCi/cc	1.26E0 μCi/cc	6.3E-01 μCi/cc
09-High Range Gas	N/A	3.14E0 μCi/cc	1.26E+-1 μCi/cc	6.28E 0 μCi/cc

DILUTED Alignment

CHANNEL	TREND ALARM	RELEASE RATE LIMIT	HIGH ALARM SETPOINTS	WARNING ALARM SETPOINTS
05-Low Range Gas	N/A	1.56E-02 μCi/cc	6.24E-03 μCi/cc	3.12E-03 μCi/cc
06-Area Gamma	N/A	N/A	1.00E+02 mRad/hr	5.00E+00 mRad/hr
07-Mid Range Gas	N/A	1.56E-02 μCi/cc	6.24E-02 μCi/cc	3.12E-02 μCi/cc
09-High Range Gas	N/A	1.56-02 μCi/cc	1.56E-01 μCi/cc	7.8E -02 μCi/cc

** Trend alarms indicate the percent per minute increase over the last channel reading.

NOBLE GAS MIXTURE



FACTORS TO CONVERT STEAM LINE MONITOR DOSE RATE TO ACTIVITY CONCENTRATION

μCi/cc per mr/hr

Time After Shutdown	"A" or "B" Steam Line
0.00	0.1295
0.25	0.1345
0.50	0.1397
0.75	0.1451
1.00	0.1507
1.25	0.1565
1.50	0.1626
1.75	0.1689
2.00	0.1754
2.25	0.1822
2.50	0.1892
2.75	0.1966
3.00	0.2042
3.5	0.2203
4.0	0.2376
4.5	0.2564
5.0	0.2766
5.5	0.2984
6.0	0.3219
6.5	0.3473
7.0	0.3747
7.5	0.4042
8.0	0.4361
12.0	0.8004
24.0	4.9477

Multiply appropriate steam line monitor (R-31 or R-32) reading in Mr/hr, by above to obtain μCi/cc in steam. Above factors do not apply to water solid steam line case.

RADIOACTIVITY RELEASE THROUGH STEAM VENTS
DATA CALCULATION SHEET

1. Time of reactor shutdown: _____Hours _____Date

2. Time of this reading: _____Hours _____Date

3. Elapsed time: _____Hours
(2) - (1)

4. Steam line location and mR/hr: A_____mR/hr B_____mR/hr

5. Conversion factor (μCi/cc per mR/hr) used (from Attachment 3):_____

6. Equivalent μCi/cc (Step 4 multiplied by Step 5):_____ μCi/cc

(NOTE: FOR WATER SOLID STEAM GENERATOR, USE μCi/cc FROM STEAM GENERATOR BLOWDOWN ACTIVITY.)

FLOW DATA THROUGH RELIEF VALVES TO ATMOSPHERE

		OPERATING	FLOW cc/sec	DURATION SECONDS	VOLUME cc
Atmospheric Relief Valve (ARV)		_____	1.33E6 (6.5E4)	_____	_____
Safety Valve	1	_____	2.65E6 (1.3E5)	_____	_____
Safety Valve	2	_____	2.65E6 (1.3E5)	_____	_____
Safety Valve	3	_____	2.65E6 (1.3E5)	_____	_____
Safety Valve	4	_____ (1.3E5)	2.65E6	_____	_____
Turbine Driven Aux. Feedwater Pump		_____	5.59E4	_____	_____

NOTE 1: ( ) INDICATES FLOW RATE FOR WATER SOLID STEAM GENERATOR.

7. Total Volume through relief valves to atmosphere. Total Volume _____

8. ARV flow duration _____ seconds

9. Total Steam Release Rate _____ cc/sec
(7) / (8)

10. Curies per second release of radioactivity determined from calculation below:

_____ (6) $\frac{uCi}{cc}$ x 1E-6 $\frac{Ci}{\mu Ci}$ x _____ (9) $\frac{cc}{Sec}$ = _____ (10) $\frac{Ci}{Sec}$ (Noble Gas)

11. Use a default ratio of 1E-4 to determine iodine release rate.

_____ (10) $\frac{Ci}{Sec}$ x 1E-4 = _____ $\frac{Ci}{Sec}$ (Iodine)

Signature:_____ Checked by:_____
Date/Time:_____ Date/Time:_____

Calculation of the Gamma Becquerel MeV/uCi Constant for ^{133}Xe and ^{85}Kr for determination of Activity Released

I. Calculation of the · Bq · MeV/μCi constant for ^{133}Xe

- MIRD Pamphlet No. 10 lists the following photons (x and gamma rays) originating from the decay of ^{133}Xe

RADIATION	PHOTONS/DISINTEGRATION	MEAN ENERGY/PHOTON (MeV)
Gamma	0.0061	0.0796
Gamma	0.3603	0.0809
Gamma	0.0002	0.3839
K Alpha - 1 X-Ray	0.2552	0.0309
K Alpha - 2 X-Ray	0.1321	0.0306
K Beta - 1 X-Ray	0.0712	0.0349
K Beta - 2 X-Ray	0.0150	0.0359
L X-Rays	0.0823	0.0043

NOTE: **ALL THE PHOTONS EMITTED IN LESS THAN 0.01 PERCENT OF THE DISINTEGRATIONS WERE OMITTED.**

- The mean photon energy emitted per disintegration is determined by:

$$\sum_{i=1}^{n} (i/^{d)} MeV_i)$$

This value is 0.0450 · MeV based on the MIRD photon listing.

- Since a Becquerel (Bq) is one disintegration per second and there are 3.7×10^4 disintegrations per second/μCi, the · Bq · MeV/μCi constant for ^{133}Xe is:

(0.0450 · MeV) 3.7×10^4 / · Bq/μCi) = 1.67×10^3 · Bq · MeV/μCi

II. Calculation of the · Bq · MeV/μCi constant for ^{85}Kr.

- MIRD Pamphlet No. 10 lists the following photons (x and gamma rays) originating from the decay of ^{85}Kr.

RADIATION	PHOTONS/DISINTEGRATION	MEAN ENERGY/PHOTON (MeV)
Gamma	0.0042	0.5140

NOTE: **ALL THE PHOTONS EMITTED IN LESS THAN 0.01 PERCENT OF THE DISINTEGRATIONS WERE OMITTED.**

- The mean photon energy emitted per disintegration is determined by:

$$\sum_{i=1}^{n} (i^{(d)} MeV_i)$$

This value is 0.0022 · MeV based on the MIRD photon listing.

- Since a Becquerel (Bq) is one disintegration per second and there are 3.7×10^4 disintegrations per second/μCi, the · Bq · MeV/μCi constant for ^{85}Kr is:

$(0.0022 \cdot MeV)(3.7 \times 10^4 Bq/\mu Ci) = 8.14 \times 10^1 \cdot Bq \cdot MeV/\mu Ci$

III. Conversion from · Bq · MeV/cm^3 for ^{133}Xe or ^{85}Kr.

- The intermediate and high range noble gas channels on the SPING monitor present data in terms of · Bq · MeV/cm^3. To convert this data to units μCi/cm^3 the conversion factors (· Bq · MeV/μCi) calculated above must be known as well as the composition of the sample gas.

- For example:

If the mid-range noble gas channel on a SPING was reporting a sample stream concentration of 1.00×10^2 · Bq · MeV/cm^3 and it was known that the noble gas content was purely ^{133}Xe; the concentration of ^{133}Xe (μCi/cm^3) based on the previously determined conversion factor of 1.67×10^3 · Bq · MeV/μCi is:

$$^{133}\text{Xe Concentration} = \frac{1.00 \times 10^2 \cdot Bq \cdot MeV/cm^3}{1.67 \times 10^3 \cdot Bq \cdot MeV/\mu Ci}$$

$$= 5.99 \times 10^{-2} \mu Ci/cm^3$$

DETERMINATION OF RELEASE

FROM WATERBORNE OR SURFACE SPILL

Initial Volume		Final Volume		Release Volume
_____	-	_____	=	_____

Volume Released		Total Activity		Conversion Factors		Total Curies Released
_____	x	_____	x	_____	=	_____

CONVERSION FACTORS

1 curie = 10^3 millicuries

1 curie = 10^6 microcuries

1 curie = 2.22E12 dis/min

1 dis/min = 4.505E-10 millicuries

1 dis/min = 4.505E-7 microcuries

1 gallon = 0.13368 ft^3

1 ft^3 = 28.32 liters

1 liter = 0.26418 gallons

TANK VOLUMES

Waste Condensate Tank = 600 gallons

Monitor Tank = 7,500 gallons

Retention Tank = 25,699 gallons

Standby Retention Tank = 30,000 gallons

High Conductivity Waste Tank = 30,000 gallons

Spent Fuel Pit = 500 gallon/inch

Resin Cask Liner = 100 ft^3 (8-120-B)

ISOTOPIC MIX (IN μCi/m1)

NOTES

Cr-51	_____
Co-58	_____
Fe-59	_____
Co-60	_____
Kr-85	_____
Kr-88	_____
Nb-95	_____
Zr-95	_____
Sb-124	_____
I-131	_____
Xe-131M	_____
Xe-133	_____
Cs-137	_____
Ba-140	_____
Ce-144	_____
_____	_____
_____	_____
_____	_____
_____	_____
Total Act	_____ *

* Use gross beta/gamma activity if isotopic analysis information is not available.

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Californium-249	98	0.01 (3.7E 8)
Californium-250	98	0.01 (3.7E 8)
Californium-251	98	0.01 (3.7E 8)
Californium-252	98	0.1 (3.7E 9)
Californium-253	98	10 (3.7E 11)
Californium-254	98	0.1 (3.7E 9)
Carbon-11	6	1000 (3.7E 13)
Carbon-14	6	10 (3.7E 11)
Cerium-134	58	10 (3.7E 11)
Cerium-135	58	10 (3.7E 11)
Cerium-137m	58	100 (3.7E 12)
Cerium-137	58	1000 (3.7E 13)
Cerium-139	58	100 (3.7E 12)
Cerium-141	58	10 (3.7E 11)
Cerium-143	58	100 (3.7E 12)
Cerium-144	58	1 (3.7E 10)
Cesium-125	55	1000 (3.7E 13)
Cesium-127	55	100 (3.7E 12)
Cesium-129	55	100 (3.7E 12)
Cesium-130	55	1000 (3.7E 13)
Cesium-131	55	1000 (3.7E 13)
Cesium-132	55	10 (3.7E 11)
Cesium-134m	55	1000 (3.7E 13)
Cesium-134	55	1 (3.7E 10)
Cesium-135m	55	100 (3.7E 12)
Cesium-135	55	10 (3.7E 11)
Cesium-136	55	10 (3.7E 11)
Cesium-137	55	1 (3.7E 10)
Cesium-138	55	100 (3.7E 12)
Chlorine-36	17	10 (3.7E 11)
Chlorine-38	17	100 (3.7E 12)
Chlorine-39	17	100 (3.7E 12)
Chromium-48	24	100 (3.7E 12)
Chromium-49	24	1000 (3.7E 13)
Chromium-51	24	1000 (3.7E 13)
Cobalt-55	27	10 (3.7E 11)
Cobalt-56	27	10 (3.7E 11)
Cobalt-57	27	100 (3.7E 12)
Cobalt-58m	27	1000 (3.7E 13)
Cobalt-58	27	10 (3.7E 11)
Cobalt-60m	27	1000 (3.7E 13)
Cobalt-60	27	10 (3.7E 11)
Cobalt-61	27	1000 (3.7E 13)
Cobalt-62m	27	1000 (3.7E 13)
Copper-60	29	100 (3.7E 12)
Copper-61	29	100 (3.7E 12)
Copper-64	29	1000 (3.7E 13)
Copper-67	29	100 (3.7E 12)
Curium-238	96	1000 (3.7E 13)
Curium-240	96	1 (3.7E 10)
Curium-241	96	10 (3.7E 11)
Curium-242	96	1 (3.7E 10)
Curium-243	96	0.01 (3.7E 8)
Curium-244	96	0.01 (3.7E 8)
Curium-245	96	0.01 (3.7E 8)
Curium-246	96	0.01 (3.7E 8)
Curium-247	96	0.01 (3.7E 8)
Curium-248	96	0.001 (3.7E 7)
Curium-249	96	1000 (3.7E 13)
Dysprosium-155	66	100 (3.7E 12)
Dysprosium-157	66	100 (3.7E 12)
Dysprosium-159	66	100 (3.7E 12)
Dysprosium-165	66	1000 (3.7E 13)
Dysprosium-166	66	10 (3.7E 11)
Einsteinium-250	99	10 (3.7E 11)
Einsteinium-251	99	1000 (3.7E 13)
Einsteinium-253	99	10 (3.7E 11)
Einsteinium-254m	99	1 (3.7E 10)
Einsteinium-254	99	0.1 (3.7E 9)
Erbium-161	68	100 (3.7E 12)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Erbium-165	68	1000 (3.7E 13)
Erbium-169	68	100 (3.7E 12)
Erbium-171	68	100 (3.7E 12)
Erbium-172	68	10 (3.7E 11)
Europium-145	63	10 (3.7E 11)
Europium-146	63	10 (3.7E 11)
Europium-147	63	10 (3.7E 11)
Europium-148	63	10 (3.7E 11)
Europium-149	63	100 (3.7E 12)
Europium-150 (12.6 hr)	63	1000 (3.7E 13)
Europium-150 (34.2 yr)	63	10 (3.7E 11)
Europium-152m	63	100 (3.7E 12)
Europium-152	63	10 (3.7E 11)
Europium-154	63	10 (3.7E 11)
Europium-155	63	10 (3.7E 11)
Europium-156	63	10 (3.7E 11)
Europium-157	63	10 (3.7E 11)
Europium-158	63	1000 (3.7E 13)
Fermium-252	100	10 (3.7E 11)
Fermium-253	100	10 (3.7E 11)
Fermium-254	100	100 (3.7E 12)
Fermium-255	100	100 (3.7E 12)
Fermium-257	100	1 (3.7E 10)
Fluorine-18	9	1000 (3.7E 13)
Francium-222	87	100 (3.7E 12)
Francium-223	87	100 (3.7E 12)
Gadolinium-145	64	100 (3.7E 12)
Gadolinium-146	64	10 (3.7E 11)
Gadolinium-147	64	10 (3.7E 11)
Gadolinium-148	64	0.001 (3.7E7)
Gadolinium-149	64	100 (3.7E 12)
Gadolinium-151	64	100 (3.7E 12)
Gadolinium-152	64	0.001 (3.7E 7)
Gadolinium-153	64	10 (3.7E 11)
Gadolinium-159	64	1000 (3.7E 13)
Gallium-65	31	1000 (3.7E 13)
Gallium-66	31	10 (3.7E 11)
Gallium-67	31	100 (3.7E 12)
Gallium-68	31	1000 (3.7E 13)
Gallium-70	31	1000 (3.7E 13)
Gallium-72	31	10 (3.7E 11)
Gallium-73	31	100 (3.7E 12)
Germanium-66	32	100 (3.7E 12)
Germanium-67	32	1000 (3.7E 13)
Germanium-68	32	10 (3.7E 11)
Germanium-69	32	10 (3.7E 11)
Germanium-71	32	1000 (3.7E 13)
Germanium-75	32	1000 (3.7E 13)
Germanium-77	32	10 (3.7E 11)
Germanium-78	32	1000 (3.7E 13)
Gold-193	79	100 (3.7E 12)
Gold-194	79	10 (3.7E 11)
Gold-195	79	100 (3.7E 12)
Gold-198m	79	10 (3.7E 11)
Gold-198	79	100 (3.7E 12)
Gold-199	79	100 (3.7E 12)
Gold-200m	79	10 (3.7E 11)
Gold-200	79	1000 (3.7E 13)
Gold-201	79	1000 (3.7E 13)
Hafnium-170	72	100 (3.7E 12)
Hafnium-172	72	1 (3.7E 10)
Hafnium-173	72	100 (3.7E 12)
Hafnium-175	72	100 (3.7E 12)
Hafnium-177m	72	1000 (3.7E 13)
Hafnium-178m	72	0.1 (3.7E 9)
Hafnium-179m	72	100 (3.7E 12)
Hafnium-180m	72	100 (3.7E 12)
Hafnium-181	72	10 (3.7E 11)
Hafnium-182m	72	100 (3.7E 12)
Hafnium-182	72	0.1 (3.7E 9)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Hafnium-183	72	100 (3.7E 12)
Hafnium-184	72	100 (3.7E 12)
Holmium-155	67	1000 (3.7E 13)
Holmium-157	67	1000 (3.7E 13)
Holmium-159	67	1000 (3.7E 13)
Holmium-161	67	1000 (3.7E 13)
Holmium-162m	67	1000 (3.7E 13)
Holmium-162	67	1000 (3.7E 13)
Holmium-164m	67	1000 (3.7E 13)
Holmium-164	67	1000 (3.7E 13)
Holmium-166m	67	1 (3.7E 10)
Holmium-166	67	100 (3.7E 12)
Holmium-167	67	100 (3.7E 12)
Hydrogen-3	1	100 (3.7E 12)
Indium-109	49	100 (3.7E 12)
Indium-110 (69.1 min)	49	100 (3.7E 12)
Indium-110 (4.9 hr)	49	10 (3.7E 11)
Indium-111	49	100 (3.7E 12)
Indium-112	49	1000 (3.7E 13)
Indium-113m	49	1000 (3.7E 13)
Indium-114m	49	10 (3.7E 11)
Indium-115m	49	100 (3.7E 12)
Indium-115	49	0.1 (3.7E 9)
Indium-116m	49	100 (3.7E 12)
Indium-117m	49	100 (3.7E 12)
Indium-117	49	1000 (3.7E 13)
Indium-119m	49	1000 (3.7E 13)
Iodine-120m	53	100 (3.7E 12)
Iodine-120	53	10 (3.7E 11)
Iodine-121	53	100 (3.7E 12)
Iodine-123	53	10 (3.7E 11)
Iodine-124	53	0.1 (3.7E 9)
Iodine-125	53	0.01 (3.7E 8)
Iodine-126	53	0.01 (3.7E 8)
Iodine-128	53	1000 (3.7E 13)
Iodine-129	53	0.001 (3.7E 7)
Iodine-130	53	1 (3.7E 10)
Iodine-131	53	0.01 (3.7E 8)
Iodine-132m	53	10 (3.7E 11)
Iodine-132	53	10 (3.7E 11)
Iodine-133	53	0.1 (3.7E 9)
Iodine-134	53	100 (3.7E 12)
Iodine-135	53	10 (3.7E 11)
Iridium-182	77	1000 (3.7E 13)
Iridium-184	77	100 (3.7E 12)
Iridium-185	77	100 (3.7E 12)
Iridium-186	77	10 (3.7E 11)
Iridium-187	77	100 (3.7E 12)
Iridium-188	77	10 (3.7E 11)
Iridium-189	77	100 (3.7E 12)
Iridium-190m	77	1000 (3.7E 13)
Iridium-190	77	10 (3.7E 11)
Iridium-192m	77	100 (3.7E 12)
Iridium-192	77	10 (3.7E 11)
Iridium-194m	77	10 (3.7E 11)
Iridium-194	77	100 (3.7E 12)
Iridium-195m	77	100 (3.7E 12)
Iridium-195	77	1000 (3.7E 13)
Iron-52	26	100 (3.7E 12)
Iron-55	26	100 (3.7E 12)
Iron-59	26	10 (3.7E 11)
Iron-60	26	0.1 (3.7E 9)
Krypton-74	36	10 (3.7E 11)
Krypton-76	36	10 (3.7E 11)
Krypton-77	36	10 (3.7E 11)
Krypton-79	36	100 (3.7E 12)
Krypton-81	36	1000 (3.7E 13)
Krypton-83m	36	1000 (3.7E 13)
Krypton-85m	36	100 (3.7E 12)
Krypton-85	36	1000 (3.7E 13)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Krypton-87	36	10 (3.7E 11)
Krypton-88	36	10 (3.7E 11)
Lanthanum-131	57	1000 (3.7E 13)
Lanthanum-132	57	100 (3.7E 12)
Lanthanum-135	57	1000 (3.7E 13)
Lanthanum-137	57	10 (3.7E 11)
Lanthanum-138	57	1 (3.7E 10)
Lanthanum-140	57	10 (3.7E 11)
Lanthanum-141	57	1000 (3.7E 13)
Lanthanum-142	57	100 (3.7E 12)
Lanthanum-143	57	1000 (3.7E 13)
Lead-195m	82	1000 (3.7E 13)
Lead-198	82	100 (3.7E 12)
Lead-199	82	100 (3.7E 12)
Lead-200	82	100 (3.7E 12)
Lead-201	82	100 (3.7E 12)
Lead-202m	82	10 (3.7E 11)
Lead-202	82	1 (3.7E 10)
Lead-203	82	100 (3.7E 12)
Lead-205	82	100 (3.7E 12)
Lead-209	82	1000 (3.7E 13)
Lead-210	82	0.01 (3.7E 8)
Lead-211	82	100 (3.7E 12)
Lead-212	82	10 (3.7E 11)
Lead-214	82	100 (3.7E 12)
Lutetium-169	71	10 (3.7E 11)
Lutetium-170	71	10 (3.7E 11)
Lutetium-171	71	10 (3.7E 11)
Lutetium-172	71	10 (3.7E 11)
Lutetium-173	71	100 (3.7E 12)
Lutetium-174m	71	10 (3.7E 11)
Lutetium-174	71	10 (3.7E 11)
Lutetium-176m	71	1000 (3.7E 13)
Lutetium-176	71	1 (3.7E 10)
Lutetium-177m	71	10 (3.7E 11)
Lutetium-177	71	100 (3.7E 12)
Lutetium-178m	71	1000 (3.7E 13)
Lutetium-178	71	1000 (3.7E 13)
Lutetium-179	71	1000 (3.7E 13)
Magnesium-28	12	10 (3.7E 11)
Manganese-51	25	1000 (3.7E 13)
Manganese-52m	25	1000 (3.7E 13)
Manganese-52	25	10 (3.7E 11)
Manganese-53	25	1000 (3.7E 13)
Manganese-54	25	10 (3.7E 11)
Manganese-56	25	100 (3.7E 12)
Mendelevium-257	101	100 (3.7E 12)
Mendelevium-258	101	1 (3.7E 10)
Mercury-193m	80	10 (3.7E 11)
Mercury-193	80	100 (3.7E 12)
Mercury-194	80	0.1 (3.7E 9)
Mercury-195m	80	100 (3.7E 12)
Mercury-195	80	100 (3.7E 12)
Mercury-197m	80	1000 (3.7E 13)
Mercury-197	80	1000 (3.7E 13)
Mercury-199m	80	1000 (3.7E 13)
Mercury-203	80	10 (3.7E 11)
Molybdenum-90	42	100 (3.7E 12)
Molybdenum-93m	42	10 (3.7E 11)
Molybdenum-93	42	100 (3.7E 12)
Molybdenum-99	42	100 (3.7E 12)
Molybdenum-101	42	1000 (3.7E 13)
Neodymium-136	60	1000 (3.7E 13)
Neodymium-138	60	1000 (3.7E 13)
Neodymium-139m	60	100 (3.7E 12)
Neodymium-139	60	1000 (3.7E 13)
Neodymium-141	60	1000 (3.7E 13)
Neodymium-147	60	10 (3.7E 11)
Neodymium-149	60	100 (3.7E 12)
Neodymium-151	60	1000 (3.7E 13)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Neptunium-232	93	1000 (3.7E 13)
Neptunium-233	93	1000 (3.7E 13)
Neptunium-234	93	10 (3.7E 11)
Neptunium-235	93	1000 (3.7E 13)
Neptunium-236 (1.2 E 5 yr)	93	0.1 (3.7E 9)
Neptunium-236 (22.5 hr)	93	100 (3.7E 12)
Neptunium-237	93	0.01 (3.7E 8)
Neptunium-238	93	10 (3.7E 11)
Neptunium-239	93	100 (3.7E 12)
Neptunium-240	93	100 (3.7E 12)
Nickel-56	28	10 (3.7E 11)
Nickel-57	28	10 (3.7E 11)
Nickel-59	28	100 (3.7E 12)
Nickel-63	28	100 (3.7E 12)
Nickel-65	28	100 (3.7E 12)
Nickel-66	28	10 (3.7E 11)
Niobium-88	41	100 (3.7E 12)
Niobium-89 (66 min)	41	100 (3.7E 12)
Niobium-89 (122 min)	41	100 (3.7E 12)
Niobium-90	41	10 (3.7E 11)
Niobium-93m	41	100 (3.7E 12)
Niobium-94	41	10 (3.7E 11)
Niobium-95m	41	100 (3.7E 12)
Niobium-95	41	10 (3.7E 11)
Niobium-96	41	10 (3.7E 11)
Niobium-97	41	100 (3.7E 12)
Niobium-98	41	1000 (3.7E 13)
Osmium-180	76	1000 (3.7E 13)
Osmium-181	76	100 (3.7E 12)
Osmium-182	76	100 (3.7E 12)
Osmium-185	76	10 (3.7E 11)
Osmium-189m	76	1000 (3.7E 13)
Osmium-191m	76	1000 (3.7E 13)
Osmium-191	76	100 (3.7E 12)
Osmium-193	76	100 (3.7E 12)
Osmium-194	76	1 (3.7E 10)
Palladium-100	46	100 (3.7E 12)
Palladium-101	46	100 (3.7E 12)
Palladium-103	46	100 (3.7E 12)
Palladium-107	46	100 (3.7E 12)
Palladium-109	46	1000 (3.7E 13)
Phosphorus-32	15	0.1 (3.7E 9)
Phosphorus-33	15	1 (3.7E 10)
Platinum-186	78	100 (3.7E 12)
Platinum-188	78	100 (3.7E 12)
Platinum-189	78	100 (3.7E 12)
Platinum-191	78	100 (3.7E 12)
Platinum-193m	78	100 (3.7E 12)
Platinum-193	78	1000 (3.7E 13)
Platinum-195m	78	100 (3.7E 12)
Platinum-197m	78	1000 (3.7E 13)
Platinum-197	78	1000 (3.7E 13)
Platinum-199	78	1000 (3.7E 13)
Platinum-200	78	100 (3.7E 12)
Plutonium-234	94	1000 (3.7E 13)
Plutonium-235	94	1000 (3.7E 13)
Plutonium-236	94	0.1 (3.7E 9)
Plutonium-237	94	1000 (3.7E 13)
Plutonium-238	94	0.01 (3.7E 8)
Plutonium-239	94	0.01 (3.7E 8)
Plutonium-240	94	0.01 (3.7E 8)
Plutonium-241	94	1 (3.7E 10)
Plutonium-242	94	0.01 (3.7E 8)
Plutonium-243	94	1000 (3.7E 13)
Plutonium-244	94	0.01 (3.7E 8)
Plutonium-245	94	100 (3.7E 12)
Polonium-203	84	100 (3.7E 12)
Polonium-205	84	100 (3.7E 12)
Polonium-207	84	10 (3.7E 11)
Polonium-210	84	0.01 (3.7E 8)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Potassium-40	19	1 (3.7E 10)
Potassium-42	19	100 (3.7E 12)
Potassium-43	19	10 (3.7E 11)
Potassium-44	19	100 (3.7E 12)
Potassium-45	19	1000 (3.7E 13)
Praseodymium-136	59	1000 (3.7E 13)
Praseodymium-137	59	1000 (3.7E 13)
Praseodymium-138m	59	100 (3.7E 12)
Praseodymium-139	59	1000 (3.7E 13)
Praseodymium-142m	59	1000 (3.7E 13)
Praseodymium-142	59	100 (3.7E 12)
Praseodymium-143	59	10 (3.7E 11)
Praseodymium-144	59	1000 (3.7E 13)
Praseodymium-145	59	1000 (3.7E 13)
Praseodymium-147	59	1000 (3.7E 13)
Promethium-141	61	1000 (3.7E 13)
Promethium-143	61	100 (3.7E 12)
Promethium-144	61	10 (3.7E 11)
Promethium-145	61	100 (3.7E 12)
Promethium-146	61	10 (3.7E 11)
Promethium-147	61	10 (3.7E 11)
Promethium-148m	61	10 (3.7E 11)
Promethium-148	61	10 (3.7E 11)
Promethium-149	61	100 (3.7E 12)
Promethium-150	61	100 (3.7E 12)
Promethium-151	61	100 (3.7E 12)
Protactinium-227	91	100 (3.7E 12)
Protactinium-228	91	10 (3.7E 11)
Protactinium-230	91	10 (3.7E 11)
Protactinium-231	91	0.01 (3.7E 8)
Protactinium-232	91	10 (3.7E 11)
Protactinium-233	91	100 (3.7E 12)
Protactinium-234	91	10 (3.7E 11)
Radium-223	88	1 (3.7E 10)
Radium-224	88	10 (3.7E 11)
Radium-225	88	1 (3.7E 10)
Radium-226Φ	88	0.1 (3.7E 9)
Radium-227	88	1000 (3.7E 13)
Radium-228	88	0.1 (3.7E 9)
Radon-220	86	0.1 (3.7E 9)
Radon-222	86	0.1 (3.7E 9)
Rhenium-177	75	1000 (3.7E 13)
Rhenium-178	75	1000 (3.7E 13)
Rhenium-181	75	100 (3.7E 12)
Rhenium-182 (12.7 hr)	75	10 (3.7E 11)
Rhenium-182 (64.0 hr)	75	10 (3.7E 11)
Rhenium-184m	75	10 (3.7E 11)
Rhenium-184	75	10 (3.7E 11)
Rhenium-186m	75	10 (3.7E 11)
Rhenium-186	75	100 (3.7E 12)
Rhenium-187	75	1000 (3.7E 13)
Rhenium-188m	75	1000 (3.7E 13)
Rhenium-188	75	1000 (3.7E 13)
Rhenium-189	75	1000 (3.7E 13)
Rhodium-99m	45	100 (3.7E 12)
Rhodium-99	45	10 (3.7E 11)
Rhodium-100	45	10 (3.7E 11)
Rhodium-101m	45	100 (3.7E 12)
Rhodium-101	45	10 (3.7E 11)
Rhodium-102m	45	10 (3.7E 11)
Rhodium-102	45	10 (3.7E 11)
Rhodium-103m	45	1000 (3.7E 13)
Rhodium-105	45	100 (3.7E 12)
Rhodium-106m	45	10 (3.7E 11)
Rhodium-107	45	1000 (3.7E 13)
Rubidium-79	37	1000 (3.7E 13)
Rubidium-81m	37	1000 (3.7E 13)
Rubidium-81	37	100 (3.7E 12)
Rubidium-82m	37	10 (3.7E 11)
Rubidium-83	37	10 (3.7E 11)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Rubidium-84	37	10 (3.7E 11)
Rubidium-86	37	10 (3.7E 11)
Rubidium-88	37	1000 (3.7E 13)
Rubidium-89	37	1000 (3.7E 13)
Rubidium-87	37	10 (3.7E 11)
Ruthenium-94	44	1000 (3.7E 13)
Ruthenium-97	44	100 (3.7E 12)
Ruthenium-103	44	10 (3.7E 11)
Ruthenium-105	44	100 (3.7E 12)
Ruthenium-106	44	1 (3.7E 10)
Samarium-141m	62	1000 (3.7E 13)
Samarium-141	62	1000 (3.7E 13)
Samarium-142	62	1000 (3.7E 13)
Samarium-145	62	100 (3.7E 12)
Samarium-146	62	0.01 (3.7E 8)
Samarium-147	62	0.01 (3.7E 8)
Samarium-151	62	10 (3.7E 11)
Samarium-153	62	100 (3.7E 12)
Samarium-155	62	1000 (3.7E 13)
Samarium-156	62	100 (3.7E 12)
Scandium-43	21	1000 (3.7E 13)
Scandium-44m	21	10 (3.7E 11)
Scandium-44	21	100 (3.7E 12)
Scandium-46	21	10 (3.7E 11)
Scandium-47	21	100 (3.7E 12)
Scandium-48	21	10 (3.7E 11)
Scandium-49	21	1000 (3.7E 13)
Selenium-70	34	1000 (3.7E 13)
Selenium-73m	34	100 (3.7E 12)
Selenium-73	34	10 (3.7E 11)
Selenium-75	34	10 (3.7E 11)
Selenium-79	34	10 (3.7E 11)
Selenium-81m	34	1000 (3.7E 13)
Selenium-81	34	1000 (3.7E 13)
Selenium-83	34	1000 (3.7E 13)
Silicon-31	14	1000 (3.7E 13)
Silicon-32	14	1 (3.7E 10)
Silver-102	47	100 (3.7E 12)
Silver-103	47	1000 (3.7E 13)
Silver-104m	47	1000 (3.7E 13)
Silver-104	47	1000 (3.7E 13)
Silver-105	47	10 (3.7E 11)
Silver-106m	47	10 (3.7E 11)
Silver-106	47	1000 (3.7E 13)
Silver-108m	47	10 (3.7E 11)
Silver-110m	47	10 (3.7E 11)
Silver-111	47	10 (3.7E 11)
Silver-112	47	100 (3.7E 12)
Silver-115	47	1000 (3.7E 13)
Sodium-22	11	10 (3.7E 11)
Sodium-24	11	10 (3.7E 11)
Strontium-80	38	100 (3.7E 12)
Strontium-81	38	1000 (3.7E 13)
Strontium-83	38	100 (3.7E 12)
Strontium-85m	38	1000 (3.7E 13)
Strontium-85	38	10 (3.7E 11)
Strontium-87m	38	100 (3.7E 12)
Strontium-89	38	10 (3.7E 11)
Strontium-90	38	0.1 (3.7E 9)
Strontium-91	38	10 (3.7E 11)
Strontium-92	38	100 (3.7E 12)
Sulfur-35	16	1 (3.7E 10)
Tantalum-172	73	100 (3.7E 12)
Tantalum-173	73	100 (3.7E 12)
Tantalum-174	73	100 (3.7E 12)
Tantalum-175	73	100 (3.7E 12)
Tantalum-176	73	10 (3.7E 11)
Tantalum-177	73	1000 (3.7E 13)
Tantalum-178	73	1000 (3.7E 13)
Tantalum-179	73	1000 (3.7E 13)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Tantalum-180m	73	1000 (3.7E 13)
Tantalum-180	73	100 (3.7E 12)
Tantalum-182m	73	1000 (3.7E 13)
Tantalum-182	73	10 (3.7E 11)
Tantalum-183	73	100 (3.7E 12)
Tantalum-184	73	10 (3.7E 11)
Tantalum-185	73	1000 (3.7E 13)
Tantalum-186	73	1000 (3.7E 13)
Technetium-93m	43	1000 (3.7E 13)
Technetium-93	43	100 (3.7E 12)
Technetium-94m	43	100 (3.7E 12)
Technetium-94	43	10 (3.7E 11)
Technetium-96m	43	1000 (3.7E 13)
Technetium-96	43	10 (3.7E 11)
Technetium-97m	43	100 (3.7E 12)
Technetium-97	43	100 (3.7E 12)
Technetium-98	43	10 (3.7E 11)
Technetium-99m	43	100 (3.7E 12)
Technetium-99	43	10 (3.7E 11)
Technetium-101	43	1000 (3.7E 13)
Technetium-104	43	1000 (3.7E 13)
Tellurium-116	52	1000 (3.7E 13)
Tellurium-121m	52	10 (3.7E 11)
Tellurium-121	52	10 (3.7E 11)
Tellurium-123m	52	10 (3.7E 11)
Tellurium-123	52	10 (3.7E 11)
Tellurium-125m	52	10 (3.7E 11)
Tellurium-127m	52	10 (3.7E 11)
Tellurium-127	52	1000 (3.7E 13)
Tellurium-129m	52	10 (3.7E 11)
Tellurium-129	52	1000 (3.7E 13)
Tellurium-131m	52	10 (3.7E 11)
Tellurium-131	52	1000 (3.7E 13)
Tellurium-132	52	10 (3.7E 11)
Tellurium-133m	52	1000 (3.7E 13)
Tellurium-133	52	1000 (3.7E 13)
Tellurium-134	52	1000 (3.7E 13)
Terbium-147	65	100 (3.7E 12)
Terbium-149	65	100 (3.7E 12)
Terbium-150	65	100 (3.7E 12)
Terbium-151	65	10 (3.7E 11)
Terbium-153	65	100 (3.7E 12)
Terbium-154	65	10 (3.7E 11)
Terbium-155	65	100 (3.7E 12)
Terbium-156m (5.0 hr)	65	1000 (3.7E 13)
Terbium-156m (24.4 hr)	65	1000 (3.7E 13)
Terbium-156	65	10 (3.7E 11)
Terbium-157	65	100 (3.7E 12)
Terbium-158	65	10 (3.7E 11)
Terbium-160	65	10 (3.7E 11)
Terbium-161	65	100 (3.7E 12)
Thallium-194m	81	100 (3.7E 12)
Thallium-194	81	1000 (3.7E 13)
Thallium-195	81	100 (3.7E 12)
Thallium-197	81	100 (3.7E 12)
Thallium-198m	81	100 (3.7E 12)
Thallium-198	81	10 (3.7E 11)
Thallium-199	81	100 (3.7E 12)
Thallium-200	81	10 (3.7E 11)
Thallium-201	81	1000 (3.7E 13)
Thallium-202	81	10 (3.7E 11)
Thallium-204	81	10 (3.7E 11)
Thorium-226	90	100 (3.7E 12)
Thorium-227	90	1 (3.7E 10)
Thorium-228	90	0.01 (3.7E 8)
Thorium-229	90	0.001 (3.7E 7)
Thorium-230	90	0.01 (3.7E 8)
Thorium-231	90	100 (3.7E 12)
Thorium-232Φ	90	0.001 (3.7E 7)
Thorium-234	90	100 (3.7E 12)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Thulium-162	69	1000 (3.7E 13)
Thulium-166	69	10 (3.7E 11)
Thulium-167	69	100 (3.7E 12)
Thulium-170	69	10 (3.7E 11)
Thulium-171	69	100 (3.7E 12)
Thulium-172	69	100 (3.7E 12)
Thulium-173	69	100 (3.7E 12)
Thulium-175	69	1000 (3.7E 13)
Tin-110	50	100 (3.7E 12)
Tin-111	50	1000 (3.7E 13)
Tin-113	50	10 (3.7E 11)
Tin-117m	50	100 (3.7E 12)
Tin-119m	50	10 (3.7E 11)
Tin-121m	50	10 (3.7E 11)
Tin-121	50	1000 (3.7E 13)
Tin-123m	50	1000 (3.7E 13)
Tin-123	50	10 (3.7E 11)
Tin-125	50	10 (3.7E 11)
Tin-126	50	1 (3.7E 10)
Tin-127	50	100 (3.7E 12)
Tin-128	50	1000 (3.7E 13)
Titanium-44	22	1 (3.7E 10)
Titanium-45	22	1000 (3.7E 13)
Tungsten-176	74	1000 (3.7E 13)
Tungsten-177	74	100 (3.7E 12)
Tungsten-178	74	100 (3.7E 12)
Tungsten-179	74	1000 (3.7E 13)
Tungsten-181	74	100 (3.7E 12)
Tungsten-185	74	10 (3.7E 11)
Tungsten-187	74	100 (3.7E 12)
Tungsten-188	74	10 (3.7E 11)
Uranium-230	92	1 (3.7E 10)
Uranium-231	92	1000 (3.7E 13)
Uranium-232	92	0.01 (3.7E 8)
Uranium-233	92	0.1 (3.7E 9)
Uranium-234ø	92	0.1 (3.7E 9)
Uranium-235ø	92	0.1 (3.7E 9)
Uranium-236	92	0.1 (3.7E 9)
Uranium-237	92	100 (3.7E 12)
Uranium-238ø	92	0.1& (3.7E 9)
Uranium-239	92	1000 (3.7E 13)
Uranium-240	92	1000 (3.7E 13)
Vanadium-47	23	1000 (3.7E 13)
Vanadium-48	23	10 (3.7E 11)
Vanadium-49	23	1000 (3.7E 13)
Xenon-120	54	100 (3.7E 12)
Xenon-121	54	10 (3.7E 11)
Xenon-122	54	100 (3.7E 12)
Xenon-123	54	10 (3.7E 11)
Xenon-125	54	100 (3.7E 12)
Xenon-127	54	100 (3.7E 12)
Xenon-129m	54	1000 (3.7E 13)
Xenon-131m	54	1000 (3.7E 13)
Xenon-133m	54	1000 (3.7E 13)
Xenon-133	54	1000 (3.7E 13)
Xenon-135m	54	10 (3.7E 11)
Xenon-135	54	100 (3.7E 12)
Xenon-138	54	10 (3.7E 11)
Ytterbium-162	70	1000 (3.7E 13)
Ytterbium-166	70	10 (3.7E 11)
Ytterbium-167	70	1000 (3.7E 13)
Ytterbium-169	70	10 (3.7E 11)
Ytterbium-175	70	100 (3.7E 12)
Ytterbium-177	70	1000 (3.7E 13)
Ytterbium-178	70	1000 (3.7E 13)
Yttrium-86m	39	1000 (3.7E 13)
Yttrium-86	39	10 (3.7E 11)
Yttrium-87	39	10 (3.7E 11)
Yttrium-88	39	10 (3.7E 11)
Yttrium-90m	39	100 (3.7E 12)

APPENDIX B TO § 302.4—RADIONUCLIDES—Continued

Radionuclide	Atomic Number	Final RQ Ci (Bq)
Yttrium-90	39	10 (3.7E 11)
Yttrium-91m	39	1000 (3.7E 13)
Yttrium-91	39	10 (3.7E 11)
Yttrium-92	39	100 (3.7E 12)
Yttrium-93	39	100 (3.7E 12)
Yttrium-94	39	1000 (3.7E 13)
Yttrium-95	39	1000 (3.7E 13)
Zinc-62	30	100 (3.7E 12)
Zinc-63	30	1000 (3.7E 13)
Zinc-65	30	10 (3.7E 11)
Zinc-69m	30	100 (3.7E 12)
Zinc-69	30	1000 (3.7E 13)
Zinc-71m	30	100 (3.7E 12)
Zinc-72	30	100 (3.7E 12)
Zirconium-86	40	100 (3.7E 12)
Zirconium-88	40	10 (3.7E 11)
Zirconium-89	40	100 (3.7E 12)
Zirconium-93	40	1 (3.7E 10)
Zirconium-95	40	10 (3.7E 11)
Zirconium-97	40	10 (3.7E 11)

Ci—Curie. The curie represents a rate of radioactive decay. One curie is the quantity of any radioactive nuclide which undergoes 3.7E 10 disintegrations per second.

Bq—Becquerel. The becquerel represents a rate of radioactive decay. One becquerel is the quantity of any radioactive nuclide which undergoes one disintegration per second. One curie is equal to 3.7E 10 becquerel.

*—Final RQs for all radionuclides apply to chemical compounds containing the radionuclides and elemental forms regardless of the diameter of pieces of solid material.

&—The adjusted RQ of one curie applies to all radionuclides not otherwise listed. Whenever the RQs in table 302.4 and this appendix to the table are in conflict, the lowest RQ shall apply. For example, uranyl acetate and uranyl nitrate have adjusted RQs shown in table 302.4 of 100 pounds, equivalent to about one-tenth the RQ level for uranium-238 listed in this appendix.

E—Exponent to the base 10. For example, 1.3E 2 is equal to 130 while 1.3E 3 is equal to 1300.

m—Signifies a nuclear isomer which is a radionuclide in a higher energy metastable state relative to the parent isotope.

ø—Notification requirements for releases of mixtures or solutions of radionuclides can be found in § 302.6(b) of this rule. Final RQs for the following four common radionuclide mixtures are provided: radium-226 in secular equilibrium with its daughters (0.053 curie); natural uranium (0.1 curie); natural uranium in secular equilibrium with its daughters (0.052 curie); and natural thorium in secular equilibrium with its daughters (0.011 curie).

[54 FR 33449, Aug. 14, 1989]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 302.4, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 302.5 Determination of reportable quantities.

(a) *Listed hazardous substances.* The quantity listed in the column "Final RQ" for each substance in table 302.4, or in appendix B to table 302.4, is the reportable quantity (RQ) for that substance. The RQs in table 302.4 are in units of pounds based on chemical toxicity, while the RQs in appendix B to table 302.4 are in units of curies based on radiation hazard. Whenever the RQs

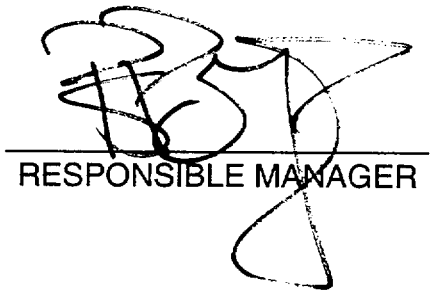
ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

PROCEDURE NO. EPIP 2-18 REV. NO. 13

CONTROL ROOM DOSE ASSESSMENT



RESPONSIBLE MANAGER

09/28/01

EFFECTIVE DATE

Category 1.0

This procedure contains 7 pages

EPIP 2-18

CONTROL ROOM DOSE ASSESSMENT

1.0 PURPOSE

1.1 The purpose of this procedure is to provide the Control Room personnel a method for performing initial projections of downwind dose rates and doses. Such information is needed to decide upon protective actions to be recommended to limit the exposure of the general public and emergency workers and Emergency Action Level (EAL) classification.

1.2 The initial whole body dose calculation will be limiting with respect to Emergency Classification and Protective Action Recommendation (PARs), based upon an assumed radioiodine to noble gas default ratio of 1 E-4.

2.0 RESPONSIBILITY

2.1 The On-Shift Radiation Protection technician is the primary individual responsible for implementing this procedure.

2.2 Shift Technical Advisors (STAs) and Operations personnel may implement this procedure in the event the On-Shift Radiation protection technician is unavailable during emergency conditions.

3.0 REFERENCES

3.1 Developmental References

3.1.1 Nuclear Emergency Response Plan

3.1.2 EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (1991)

3.1.3 Ginna UFSAR, Chapter 15

3.1.4 Regulatory Guide 1.109

3.2 Implementing References

3.2.1 EPIP 1-0, Ginna Station Event Classification and Evaluation

3.2.2 EPIP 2-1, Protective Action Recommendations

3.2.3 EPIP 2-2, Obtaining Meteorological Data and Forecasts and Their Use In Emergency Dose Assessment

4.0 PRECAUTIONS

4.1 If the Ginna Primary Meteorological Tower is unavailable, use EPIP 2-2 to obtain meteorological data.

5.0 PREREQUISITES

5.1 The following equipment and data sources are available for use in performing dose projections:

5.1.1 Control Room wind and temperature indications

5.1.2 Plant Process Computer System (PPCS)

5.1.3 Control Room Radiation Monitoring System (RMS) Panel readouts of effluent monitors.

6.0 ACTIONS

NOTE: IF PPCS IS UNAVAILABLE OR THE HIGH RANGE EFFLUENT MONITORS ARE OUT OF SERVICE, USE THE CONTROL ROOM RMS PANEL AND ATTACHMENT 4 TO PERFORM ASSESSMENT.

6.1 Obtain a printout of EVENT2.

6.1.1 At a PPCS terminal, select "Emergency Plan Menu" from the top menu.

6.1.2 Select "Group Event 2", then select "Report".

NOTE: IF THE GINNA PRIMARY METEOROLOGICAL TOWER IS UNAVAILABLE, USE EPIP 2-2 TO OBTAIN METEOROLOGICAL DATA.

6.2 Obtain the following parameters.

250 foot - 33 foot Delta Temperature

_____ F (250 ft temp) - _____ F (33 ft temp) = _____ F

6.3 Using the 250-33 foot delta temp., determine Stability Class.

	-1.74F	-0.65F	
Unstable		Neutral	Stable
-3F	-2F	-1F	0F +1F

6.3.1 Stability Class = Unstable Neutral Stable
(Circle one)

6.4 Based on the Stability Class, calculate the Site Boundary Whole Body Dose Rate by completing the appropriate Attachments:

Unstable - Attachment 1

Neutral - Attachment 2

Stable - Attachment 3

6.5 To perform the EPIP 2-18 calculations from the PPCS, select "Emergency Plan Menu" from the top menu.

6.5.1 Select "EPIP 2-18".

6.5.2 The EPIP 2-18 calculation form is displayed. Review the data for each input. Your review should ensure that shine from radiation sources or instrument malfunctions are not affecting the quality of the data. When the data has been verified as being valid, select "verify" for each effluent release point.

6.5.3 When the calculation has been verified, select the printer icon and print the report. Sign the report as the person completing the form. Then, have the Sift Supervisor review your calculation.

7.0 ATTACHMENTS

1. Unstable - Stability Class
2. Neutral - Stability Class
3. Stable - Stability Class
4. RMS Conversion Factors

Stability Class = UNSTABLE

NOTE: **The numbers in parenthesis refer to the line numbers on the Event 2 reports.**
NOTE: **If PPCS or SPING(s) are out of service, calculate μci/cc for 4A, 4B or 4C respectively using Attachment 4.**

1. Verify Stability Class — 250 ft. temp. _____ - 33 ft. temp. _____ = Delta T _____

2. Determine the 33 ft. Level Wind Speed _____ MPH

3. Determine which of the following monitors are on "ALARM" and providing a "RELEASE" path.

	ALARM (Yes/No)
3A) R-12 Containment Vent Gas (during CV purge "ONLY")	Yes No if yes go to 4A
3B) R-14 Plant Vent	Yes No if yes go to 4B
3C) R-15 Air Ejector Vent	Yes No if yes go to 4C
3D) R-31/32 "A/B" Steam Line Radiation Monitor	Yes No if yes go to 4D and 4E

4. Dose Assessment Calculation at the Site Boundary

4A) R-12 ALARM Assessment. Use R12A7 unless >10uCi/cc, then use R12A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 1.72E{+}2}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4B) R-14 ALARM Assessment. Use R14A7 (30) unless >10uCi/cc, then use R14A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 8.61E{+}2}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4C) R-15 ALARM Assessment. Use R15A7 (33) unless >10uCi/cc, then use R15A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 6.73E{+}0}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4D) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of ARV's OPEN}\ ] \times 4.10E{+}0}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4E) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of Safeties OPEN}\ ] \times 8.16E{+}0}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4F) **TOTAL SITE BOUNDARY DOSE RATE** (Total of 4A thru 4E) _____ mR/hr
(Refer to EPIP 1-0, Initiating Condition:Effluent Releases for EAL Criteria)

4G) **TOTAL PROJECTED EXPOSURE**Total from 4F X Duration (if unknown use 4 hrs)

_____ mR/hr X _____ hrs = _____ mR (Refer to EPIP 2-1 for PARS)

4H) Person Completing Form_____ Shift Supervisor_____ Date/Time_____

Stability Class = NEUTRAL

NOTE: **The numbers in parenthesis refer to the line numbers on the Event 2 reports.**
NOTE: **If PPCS or SPING(s) are out of service, calculate μci/cc for 4A, 4B or 4C respectively using Attachment 4.**

1. Verify Stability Class — 250 ft. temp. _____ - 33 ft. temp. _____ = Delta T _____

2. Determine the 33 ft. Level Wind Speed _____ MPH

3. Determine which of the following monitors are on "ALARM" and providing a "RELEASE" path.

	ALARM (Yes/No)
3A) R-12 Containment Vent Gas (during CV purge "ONLY")	Yes No if yes go to 4A
3B) R-14 Plant Vent	Yes No if yes go to 4B
3C) R-15 Air Ejector Vent	Yes No if yes go to 4C
3D) R-31/32 "A/B" Steam Line Radiation Monitor	Yes No if yes go to 4D and 4E

4. Dose Assessment Calculation at the Site Boundary

4A) R-12 ALARM Assessment. Use R12A7 unless >10uCi/cc, then use R12A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 9.65E{+}2}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4B) R-14 ALARM Assessment. Use R14A7 unless >10uCi/cc, then use R14A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 4.84E{+}3}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4C) R-15 ALARM Assessment. Use R15A7 unless >10uCi/cc, then use R15A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 3.78E{-}{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4D) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of ARV's OPEN}\ ] \times 2.30E{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4E) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of Safeties OPEN}\ ] \times 4.59E{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4F) **TOTAL SITE BOUNDARY DOSE RATE** (Total of 4A thru 4E) _____ mR/hr
(Refer to EPIP 1-0, Initiating Condition: Effluent Releases for EAL Criteria)

4G) **TOTAL PROJECTED EXPOSURE**Total from 4F X Duration (if unknown use 4 hrs)

_____ mR/hr X _____ hrs = _____ mR (Refer to EPIP 2-1 for PARS)

4H) Person Completing Form_____ Shift Supervisor_____ Date/Time_____

Stability Class = STABLE

NOTE: **The numbers in parenthesis refer to the line numbers on the Event 2 reports.**
NOTE: **If PPCS or SPING(s) are out of service, calculate μci/cc for 4A, 4B or 4C respectively using Attachment 4.**

1. Verify Stability Class — 250 ft. temp. _____ - 33 ft. temp. _____ = Delta T _____

2. Determine the 33 ft. Level Wind Speed _____ MPH

3. Determine which of the following monitors are on "ALARM" and providing a "RELEASE" path.

	ALARM (Yes/No)
3A) R-12 Containment Vent Gas (during CV purge "ONLY")	Yes No if yes go to 4A
3B) R-14 Plant Vent	Yes No if yes go to 4B
3C) R-15 Air Ejector Vent	Yes No if yes go to 4C
3D) R-31/32 "A/B" Steam Line Radiation Monitor	Yes No if yes go to 4D and 4E

4. Dose Assessment Calculation at the Site Boundary

4A) R-12 ALARM Assessment. Use R12A7 unless >10uCi/cc, then use R12A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 1.78E{+}3}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4B) R-14 ALARM Assessment. Use R14A7 unless >10uCi/cc, then use R14A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 8.94E{+}3}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4C) R-15 ALARM Assessment. Use R15A7 unless >10uCi/cc, then use R15A9.

$$\frac{[\ \text{uCi/cc}\ ] \times 6.99E{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4D) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of ARV's OPEN}\ ] \times 4.25E{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4E) R-31/32 ALARM Assessment. Use R-31/32 whichever is HIGHER

$$\frac{[\ \text{mR/hr}\ ] \times [\ \text{Number of Safeties OPEN}\ ] \times 8.48E{+}1}{[\ \text{MPH}\ ]} = \_\_\_\_\_ \text{ mR/hr}$$

4F) **TOTAL SITE BOUNDARY DOSE RATE** (Total of 4A thru 4E) _____ mR/hr
(Refer to EPIP 1-0, Initiating Condition:Effluent Releases for EAL Criteria)

4G) **TOTAL PROJECTED EXPOSURE**Total from 4F X Duration (if unknown use 4 hrs)

_____ mR/hr X _____ hrs = _____ mR (Refer to EPIP 2-1 for PARS)

4H) Person Completing Form_____ Shift Supervisor_____ Date/Time_____

RMS Conversion Factors

1. R-12 Conversion (during CV purge "ONLY") — Reading in μCi/cc

   R-12 Reading in CPM [ ] × Conversion Factor $5.6E\text{-}8 \frac{\mu Ci/cc}{CPM}$ = _____

2. R-14 Conversion — Reading in μCi/cc

   R-14 Reading in CPM [ ] × Conversion Factor $5.6E\text{-}8 \frac{\mu Ci/cc}{CPM}$ = _____

3. R-15 Conversion — Reading in μCi/cc

   R-15 Reading in CPM [ ] × Conversion Factor $5.0E\text{-}8 \frac{\mu Ci/cc}{CPM}$ = _____

NOTE: Use the converted value for R-12A, R-14A and R-15A values on the applicable Attachment (Unstable, Neutral or Stable).

NOTE: The maximum reading that can be used for R-12, R-14 or R-15 is 1E7 cpm.

ROCHESTER GAS AND ELECTRIC CORPORATION

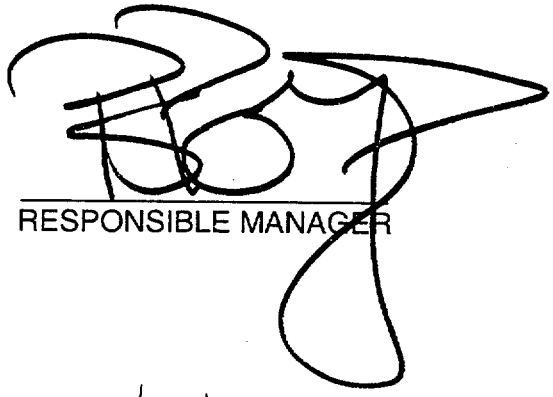
GINNA STATION

CONTROLLED COPY NUMBER 23

PROCEDURE NO. EPIP 5-1 REV. NO. 22

OFFSITE EMERGENCY RESPONSE FACILITIES AND EQUIPMENT

PERIODIC INVENTORY CHECKS AND TESTS



RESPONSIBLE MANAGER

09/28/01

EFFECTIVE DATE

Category 1.0

Reviewed by: _____

This procedure contains 17 pages

EPIP 5-1

OFFSITE EMERGENCY RESPONSE FACILITIES AND EQUIPMENT

PERIODIC INVENTORY CHECKS AND TESTS

1.0 PURPOSE

The equipment required by the Nuclear Emergency Response Plan and the means of assuring it is available are outlined in this procedure. Inspections will be made quarterly, monthly, or, as required by Technical Specifications and after each drill or use.

2.0 RESPONSIBILITY

The Corporate Nuclear Emergency Planner (CNEP) or designee is responsible for ensuring the periodic inspections, inventory and operational checking of emergency preparedness equipment.

3.0 REFERENCES

3.1 Developmental References

3.1.1 Nuclear Emergency Response Plan

3.1.2 Tech. Specs, Table 4.1-1 Minimum frequencies for checks, calibrations and test of instrument channels

3.2 Implementing References

3.2.1 RP-JC-DAILY-SRC-CHKS, Daily Instrument Source Checks.

3.2.2 EPIP 2-12, Offsite Surveys

3.2.3 EPIP 2-2, Obtaining Meteorological Data and Forecasts and Their Use in Emergency Dose Assessment

3.2.4 RP-JC_AIRSAMPLE, Attachment 1, Air Sample Job Coverage Record

3.2.5 RP-RES-M-RESP, Decontamination, Packing and Storage of Respirators

3.2.6 RP-RES-M-RESP, Maintenance, Inspection and Repair of Scottoramic Respirators

4.0 PRECAUTIONS

This procedure may be performed in any order, and attachments may be removed and submitted individually.

5.0 PREREQUISITES

Obtain current copies of applicable procedures of RP-JC-DAILY-SRC-CHKS

6.0 ACTIONS

6.1 Inspection and/or testing of Equipment

6.1.1 Inspect and/or test each location using Attachments 1 through 4.

6.1.2 Send completed attachments to the CNEP for review.

6.1.3 Inspection of EOF/Recovery Center, Engineering Support Center, EOF/Recovery Center Store Room General Equipment, and Offsite Dose Assessment Area.

a. Check Center for general equipment and communications, Attachment 1.
b. Checks will be done monthly.

6.1.4 Inspection of Joint Emergency News Center

a. Check Joint Emergency News Center for general equipment and communications, Attachment 2.
b. All equipment shall be tested quarterly.

6.2 Reporting Discrepancies

6.2.1 If any discrepancies are found, the CNEP or designee will make a note on the emergency equipment monthly inspection log, Attachment 5. If there are no discrepancies, enter none for each location.

6.2.2 Discrepancies are to be corrected as soon as possible and so noted on the Log sheet.

7.0 ATTACHMENTS

1. General Equipment in EOF/Recovery Center
2. Joint Emergency News Center Equipment Check List
3. Nuclear Emergency Offsite Response Radio Operation Procedure
4. Mobile Cellular Telephone Equipment Check
5. Emergency Equipment Monthly Inspection Log

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER

Main Room

1. Clocks (operating and set to present time; min. 1 unit) _____

2. RTC, Wayne and EOF Telephone Directories at each manager position. _____

3. Wayne, Monroe and New York State positions have a copy of their Emergency Plans at their position. _____

4. Computer and printer for news announcements (turn on, launch any new corporate software upgrades and print a press release). _____

5. Observe operation of SAS/PPCS by checking clock time. _____

6. PPCS Projector - check "status" light on projector. Change bulb if status light is on. _____

7. Check that there are a minimum of 5 copies of each EPIP in the drawer. _____

Offsite Dose Assessment Room

1. Clock (operating and set to present time; min. 1 unit) _____

2. Sufficient RTC, Wayne and EOF Telephone Directories _____

3. Personal Computers (min. 2 units); check operability by contacting primary met tower, back-up met tower and MIDAS _____

4. Observe operation of SAS/PPCS by checking clock time. _____

5. Verify radio operation (Attachment 3, step 1.1) _____

6. Technical Support Center (Dose Assessment) Direct Line - Monthly Test. (Contact TSC to assist in answering phone.)

   a. Verify operation by ringing TSC and performing a callback to the EOF. _____

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER
(Continued)

49 East Avenue Lobby/Frisking Station

1. Ensure RM-14 Frisker with pancake probe or equivalent is set up and ready for use. Perform battery check, calibration check, response check and document using RP-JC-DAILY-SRC-CHKS. Serial No. _____ Exp. _____ _____

Communications Room

1. RECs Line - Monthly Test

   a. Pick up handset and depress "A" then "*" for all call. _____

   b. After ten seconds, depress "Push to talk" base on handset and state that "THIS IS A TEST. THIS IS THE GINNA STATION EMERGENCY OPERATIONS FACILITY CALLING THE STATE AND COUNTY WARNING POINTS. PLEASE STAND BY FOR ROLL CALL." _____

NOTE: RELEASE "PUSH TO TALK" BAR WHEN NOT SPEAKING.

   c. Then announce the following roll call:

      Wayne County Warning Point

      Monroe County Warning Point

      New York State Warning Point

   d. Recall warning points, if necessary, until they answer roll call. _____

   e. At completion of test, state "THIS IS THE END OF THE TEST, GINNA EMERGENCY OPERATIONS FACILITY OUT ", depress "A" then "#". _____

   f. Report any problems to the New York State Warning Point at (518) 457-2200.

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER
(Continued)

2. NRC ENS and Commercial Telephone System - Monthly Test

   a. (ENS) Call 301-816-5100 - state to operator, "This is a communications check". Request a call back to ensure operation. _____

   b. From the ENS phone call the other FTS2000 extensions. _____

Reactor Safety Counterpart Link	716-724-8423
Management Safety Counterpart Link	716-771-6126
Protective Measures Counterpart Link	716-771-6127
Local Area Network	716-724-8424
Emergency Notification System	716-771-6128
Health Physics Network	716-724-8422

NOTE: **ALTERNATE TESTS BETWEEN RECS DROPS IN COMMUNICATIONS AND EMERGENCY PLANNING ROOMS.**

Information Center Room

1. Ginna procedures needed for EOF/Recovery Center _____

2. Ginna UFSAR _____

3. Ginna Technical Specifications _____

Clerical Supervision Room

1. Test Fax Machines by faxing a test message to New York State, Wayne County, Monroe County, TSC and Survey Center _____

2. Clock (operating and set to present time; min. 1 unit) _____

3. RTC, Wayne and EOF Telephone Directory (min. 1) Directories _____

Conference Room

1. Clock (operating and set to present time; min 1 unit) _____

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER
(Continued)

Store Room

1. Survey team boxes - EOF-1, EOF-2. If seal is unbroken, assume equipment is intact. Inventory boxes and change batteries in January and July. _____

2. Survey meters. Battery check, check calibration date, response check and document using RP-JC-DAILY-SRC-CHKS. _____

   Low range,
   RM-14 with pancake probe or equivalent (min. 2 units) _____
   Serial #_____ Exp._____
   Serial #_____ Exp._____

   Bicron Micro-R or equivalent (min. 2 units) _____
   Serial #_____ Exp._____
   Serial #_____ Exp._____

   High range, Eberline RO-20 or equivalent (min. 2 units) _____
   Serial #_____ Exp._____
   Serial #_____ Exp._____

3. Dosimeter charger, battery operated - check operation (min. 1 unit) _____

4. Self-reading Pocket Dosimeters - check check calibration _____

   0-1500 mr (min. 4 units) Exp._____
   0-10R (min. 4 units) Exp. _____ _____

5. Thermoluminescent dosimeters (TLDs)
   (min 6-units*) Exp._____ _____

   * Four TLDs are assigned to personnel; two are for background purposes.

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER (Con't)

Store Room (Con't)

6. Air samplers. Check calibration. Run samplers for several minutes to check operation. Ensure filters ARE NOT left in holders. _____

   Low volume, Gilian or equivalent. Ensure units are plugged into charger after test (min. 2 units)

   Serial #_____ Exp._____
   Serial #_____ Exp._____ _____
   RADECO H 809 C. Run for 1 minute (min. 2 units)

   Serial #_____ Exp. _____
   Serial #_____ Exp. _____ _____

NOTE: PRECEDE ALL COMMUNICATIONS WITH "THIS IS A TEST"

7. Motorola GM300 Mobile Portable Radios

   Turn on each radio (2) and conduct operability test with EOF Security. See Attachment 3 for Radio Operation Instructions. _____

8. Antenna, magnetic car mount (min. 2 units) _____

9. Cellular phones. Check operation of each unit by performing Attachment 4. (min. 2 units). _____

10. Full Face Respirators (min. 4 units) _____

GENERAL EQUIPMENT IN EOF/RECOVERY CENTER (Con't)

11. Inspect and label per RP-RES-M-RESP. _____

12. Respiratory Charcoal Filters (min. 4 units) _____
    Expiration date: _____

13. Air Sample Job Coverage Record for SCOTT A Respirators per RP-JC AIRSAMPLE, ATT.1 (min. 10 copies) _____

Performed by _____ Date _____

EMERGENCY EQUIPMENT FOR SURVEY TEAM BOXES - EOF

TEAM BOX _____

NOTE: USE ONE ATTACHMENT FOR EACH TEAM BOX INVENTORY. IF BOX IS SEALED, INVENTORY IS NOT REQUIRED. BOXES SHALL BE OPENED IN JANUARY AND JULY FOR BATTERY CHANGE AND INVENTORY.

1.	Protective Clothing (min. 2 units each)	_____
	Coveralls, disposable	_____
	Hood, disposable	_____
	Gloves, disposable (min. 12 units)	_____
	Booties, disposable	_____
	Hood, rain	_____
	Coat, rain	_____
	Boots, rain	_____
	Orange Safety Vest (min. 1 unit)	_____
2.	Flashlight with batteries. Change batteries in January (min. 1 unit)	_____
3.	Plastic bags (min. 2 units)	_____
4.	Tape, masking. Replace in January (min. 2 units)	_____
5.	Stationary supplies	
	Pencils/pens (min. 2 units)	_____
	Pencil sharpener (min. 1 unit)	_____
	Tablet, writing (min. 1 unit)	_____
	Clipboard (min. 1 unit)	_____
	Ruler, scale in inches (min. 1 unit)	_____
	Scissors (min. 1 unit)	_____
6.	Survey route maps (min. 2 units)	_____

EMERGENCY EQUIPMENT FOR SURVEY TEAM BOXES - EOF

TEAM BOX _____ (Con't)

7. Air sampler filters

   Particulate (min. 5 units) _____

   Silver Zeolite (min. 5 units) Expiration: _____ _____

8. Air Sample Envelopes (min. 10 units) _____

9. Smears (min. 1-box) _____

10. Thyroid block tablets. Check expiration date
    (min. 3 units) Exp._____ _____

11. Tools

    Hammer (min. 1 unit) _____

    Nails (min. 10 units) _____

    Trowel, garden (min. 1 unit) _____

12. Tags with wire ties (min. 10 units) _____

13. Quarters for phone calls (min. 10) _____

14. 250 ml Poly bottles for liquid samples (min 2-units) _____

15. Tweezers _____

Performed by _____ Date _____

JOINT EMERGENCY NEWS CENTER
EQUIPMENT CHECK LIST

NOTE: CODE = 2-4-5 FOR JENC ACCESS.

County Room

1. Clock (operating and set to the present time) _____

2. RTC and Wayne Co. Telephone Directories at each manager's position. _____

3. Computer Terminals (Min. 3 Terminals)
   Turn on, launch any new corporate software upgrades and Test Print Page verified. _____

4. Fax Machines (Min. 2) - correct date and time
   Test operability by sending a test fax to both fax machines. _____

New York State PIO Room

1. Clock (operating and set to the present time) _____

2. RTC and Wayne Co. Telephone Directories - 1 each _____

3. One Fax Machine - correct date and time.
   Test operability by sending a test fax by using test button and sending fax to county room. _____

RG&E PIO Room

1. Clocks (Min. 2) _____

2. RTC, Wayne Co. and EOF Telephone Directories (1 each) _____

3. One Fax Machine - correct date and time
   Test operability by sending a test fax by using test button and sending fax to county room. _____

4. One Computer - Turn on, launch any new corporate software upgrades and Test Print Page verified. _____

JOINT EMERGENCY NEWS CENTER
EQUIPMENT CHECK LIST
(Continued)

Rumor Control Room

1. Clock - set to present time _____

2. RTC and Wayne Co. Telephone Directories at each position _____

Performed by _____ Date _____

NUCLEAR EMERGENCY OFFSITE RESPONSE RADIO OPERATION PROCEDURE

1.0 INSTRUCTIONS

1.1 EOF/Recovery Center and EOF Dose Assessment Desk Set Radios

1.1.1 Check that radio power converter is plugged into a 110 volt AC power source and that miniature red light is on Channel F1.

1.1.2 Check that frequency switch on right side of desk set is in the desired position as follows:

a. Position 2 Rad Monitor, 153.59 MHz

b. Position 3 for Fire Brigade Frequency, 153.50 MHz

c. Position 4 General Maintenance Frequency, 153.53 MHz

1.1.3 Turn radio volume knob clockwise for proper volume.

NOTE: WHEN HANDSET IS PICKED UP FROM THE DESK SET, SPEAKER IS CUT OUT AND INCOMING VOICE COMMUNICATION IS THROUGH THE HANDSET ONLY.

1.1.4 Call ext. 3108 and ask for a test from the TSC on the Radiation Monitor channel. If there is no answer at ext. 3108, call ext. 3267 to test with SAS.

1.1.5 Pick-up and depress switch on handset to transmit. Release switch to receive.

1.1.6 Make communications check with another station using time and date.

1.2 Motorola GM300 Mobile Radios

1.2.1 Check that frequency switch on unit is in the desired position as follows:

a. Position 2 for Rad Monitor Teams

b. Position 3 for Fire Brigade

c. Position 4 for General Maintenance

1.2.2 Place selector on Channel 4.

NUCLEAR EMERGENCY OFF-SITE RESPONSE
RADIO OPERATION PROCEDURE
(Cont'd)

1.2.3 Monthly Test - Plug unit into transformer

1.2.3.1 Test radio with EOF Security.

1.2.3.2 Turn radio and transformer off and unplug radio from transformer.

CELLULAR TELEPHONE EQUIPMENT CHECK

NOTE: **IT MAY BE NECESSARY TO EXIT THE BUILDING IN ORDER TO USE THE CELLULAR PHONE EFFECTIVELY.**

1. Disconnect telephone from charging unit, if on charger.
2. Turn the unit on by pressing the PWR button on the handset.
3. To place a call, press the appropriate number buttons and verify the number displayed is correct.
4. Press the SND button to activate the call.
5. Press END button to end the test call.
6. To turn unit off, press PWR button. Ensure display is blank.
7. Return the unit to storage and ensure unit is plugged into the battery charger, if necessary.

EMERGENCY EQUIPMENT MONTHLY INSPECTION LOG

	DISCREPANCIES NOTED		DISCREPANCIES CORRECTED	
EOF/Recovery Center	Date_____	Initials_____	Date_____	Initials____
Survey Team Boxes	Date_____	Initials_____	Date_____	Initials____
Offsite Dose Assessment Area	Date_____	Initials_____	Date_____	Initials____
Joint Emergency New Center	Date_____	Initials_____	Date_____	Initials____

One copy of the completed Attachment 8 Emergency Equipment Monthly Inspection Log provided to Corporate Nuclear Emergency Planner (Ginna Training Center)

SUBMITTED BY: _____ DATE: _____

CNEP REVIEW: _____ DATE: _____

PARAMETERS: DOC TYPES - PREPIP STATUS: EF 5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
EPIP-1-0	GINNA STATION EVENT EVALUATION AND CLASSIFICATION	027	08/22/01	08/22/01	08/22/06	EF
EPIP-1-1	UNUSUAL EVENT	002	12/09/96	12/09/96	12/09/01	EF
EPIP-1-2	ALERT	003	12/09/96	12/09/96	12/09/01	EF
EPIP-1-3	SITE AREA EMERGENCY	005	12/09/96	01/23/98	01/20/03	EF
EPIP-1-4	GENERAL EMERGENCY	004	12/09/96	12/09/96	12/09/01	EF
EPIP-1-5	NOTIFICATIONS	043	06/04/01	06/04/01	06/04/06	EF
EPIP-1-6	SITE EVACUATION	012	03/12/01	03/12/01	03/12/06	EF
EPIP-1-7	ACCOUNTABILITY OF PERSONNEL	008	07/27/99	07/27/99	07/27/04	EF
EPIP-1-8	SEARCH AND RESCUE OPERATION	004	05/16/00	05/16/00	05/16/05	EF
EPIP-1-9	TECHNICAL SUPPORT CENTER ACTIVATION	020	08/31/01	08/31/01	08/31/06	EF
EPIP-1-10	OPERATIONAL SUPPORT CENTER (OSC) ACTIVATION	010	07/25/00	07/25/00	07/25/05	EF
EPIP-1-11	SURVEY CENTER ACTIVATION	022	07/20/01	07/20/01	07/20/06	EF
EPIP-1-12	REPAIR AND CORRECTIVE ACTION GUIDELINES DURING EMERGENCY SITUATIONS	008	07/20/01	07/20/01	07/20/06	EF
EPIP-1-13	LOCAL RADIATION EMERGENCY	003	08/04/95	01/23/98	01/23/03	EF
EPIP-1-15	USE OF THE HEALTH PHYSICS NETWORK HPN	005	04/24/96	03/03/99	03/03/04	EF
EPIP-1-16	RADIOACTIVE LIQUID RELEASE TO LAKE ONTARIO OR DEER CREEK	004	02/13/98	02/13/98	02/13/03	EF
EPIP-1-17	PLANNING FOR ADVERSE WEATHER	002	06/21/00	06/21/00	06/21/05	EF
EPIP-2-1	PROTECTIVE ACTION RECOMMENDATIONS	019	06/04/01	06/04/01	06/04/06	EF
EPIP-2-2	OBTAINING METEOROLOGICAL DATA AND FORECASTS AND THEIR USE IN EMERGENCY DOSE ASSESSMENT	011	09/28/01	09/28/01	09/28/06	EF
EPIP-2-3	EMERGENCY RELEASE RATE DETERMINATION	014	09/28/01	09/28/01	09/28/06	EF
EPIP-2-4	EMERGENCY DOSE PROJECTIONS - MANUAL METHOD	013	07/20/01	07/20/01	07/20/06	EF
EPIP-2-5	EMERGENCY DOSE PROJECTIONS PERSONAL COMPUTER METHOD	013	08/31/01	08/31/01	08/31/06	EF
EPIP-2-6	EMERGENCY DOSE PROJECTIONS - MIDAS PROGRAM	011	06/21/00	06/21/00	06/21/05	EF
EPIP-2-7	MANAGEMENT OF EMERGENCY SURVEY TEAMS	010	10/23/00	10/23/00	10/23/05	EF

PARAMETERS: DOC TYPES - PREPIP STATUS: EF 5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
EPIP-2-8	VOLUNTARY ACCEPTANCE OF EMERGENCY RADIATION EXPOSURE	005	05/16/00	05/16/00	05/16/05	EF
EPIP-2-9	ADMINISTRATION OF POTASSIUM IODIDE (KI)	003	12/05/97	12/05/97	12/05/01	EF
EPIP-2-10	INPLANT RADIATION SURVEYS	003	01/16/97	01/16/97	01/16/02	EF
EPIP-2-11	ONSITE SURVEYS	016	07/20/01	07/20/01	07/20/06	EF
EPIP-2-12	OFFSITE SURVEYS	019	07/20/01	07/20/01	07/20/06	EF
EPIP-2-13	IODINE AND PARTICULATE ACTIVITY DETERMINATION FROM AIR SAMPLES	008	07/27/99	07/27/99	07/27/04	EF
EPIP-2-14	POST PLUME ENVIRONMENTAL SAMPLING	014	12/04/00	12/04/00	12/04/05	EF
EPIP-2-15	POST PLUME EVALUATION OF OFFSITE DOSES DUE TO DEPOSITION	004	03/06/98	03/06/98	03/06/03	EF
EPIP-2-16	CORE DAMAGE ESTIMATION	011	08/31/01	08/31/01	08/31/06	EF
EPIP-2-17	HYPOTHETICAL (PRE-RELEASE) DOSE ESTIMATES	006	06/04/01	06/04/01	06/04/06	EF
EPIP-2-18	CONTROL ROOM DOSE ASSESSMENT	013	09/28/01	09/28/01	09/28/06	EF
EPIP-3-1	EMERGENCY OPERATIONS FACILITY (EOF) ACTIVATION AND OPERATIONS	017	08/31/01	08/31/01	08/31/06	EF
EPIP-3-2	ENGINEERING SUPPORT CENTER (ESC)	009	03/12/01	03/12/01	03/12/06	EF
EPIP-3-3	IMMEDIATE ENTRY	007	06/21/00	06/21/00	06/21/05	EF
EPIP-3-4	EMERGENCY TERMINATION AND RECOVERY	008	03/12/01	03/12/01	03/12/06	EF
EPIP-3-7	SECURITY DURING EMERGENCIES	009	11/16/99	11/16/99	11/16/04	EF
EPIP-4-1	PUBLIC INFORMATION RESPONSE TO AN UNUSUAL EVENT	006	02/13/98	02/13/98	02/13/03	EF
EPIP-4-3	ACCIDENTAL ACTIVATION OF GINNA EMERGENCY NOTIFICATION SYSTEM SIRENS	008	02/13/98	02/13/98	02/13/03	EF
EPIP-4-6	JOINT EMERGENCY NEWS CENTER ACTIVATION	009	08/31/01	08/31/01	08/31/06	EF
EPIP-4-7	PUBLIC INFORMATION ORGANIZATION STAFFING	018	08/31/01	08/31/01	08/31/06	EF
EPIP-5-1	OFFSITE EMERGENCY RESPONSE FACILITIES AND EQUIPMENT PERIODIC INVENTORY CHECKS AND TESTS	022	09/28/01	06/04/01	06/04/06	EF
EPIP-5-2	ONSITE EMERGENCY RESPONSE FACILITIES AND EQUIPMENT PERIODIC INVENTORY CHECKS AND TESTS	025	07/20/01	07/20/01	07/20/06	EF
EPIP-5-5	CONDUCT OF DRILLS AND EXERCISES	013	08/31/01	08/31/01	08/31/06	EF

PARAMETERS: DOC TYPES - PREPIP STATUS: EF 5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
EPIP-5-6	ANNUAL REVIEW OF NUCLEAR EMERGENCY RESPONSE PLAN (NERP)	004	05/28/99	05/28/99	05/28/04	EF
EPIP-5-7	EMERGENCY ORGANIZATION	033	08/31/01	08/31/01	08/31/06	EF
EPIP-5-9	TESTING THE OFF HOURS CALL-IN PROCEDURE AND QUARTERLY TELEPHONE NUMBER CHECK	006	05/28/99	05/28/99	05/28/04	EF
EPIP-5-10	EMERGENCY RESPONSE DATA SYSTEM (ERDS)	005	09/05/97	09/05/97	09/05/02	EF
NERP	GINNA STATION NUCLEAR EMERGENCY RESPONSE PLAN	020	03/21/01	03/21/01	12/09/04	EF

TOTAL FOR PREPIP 52